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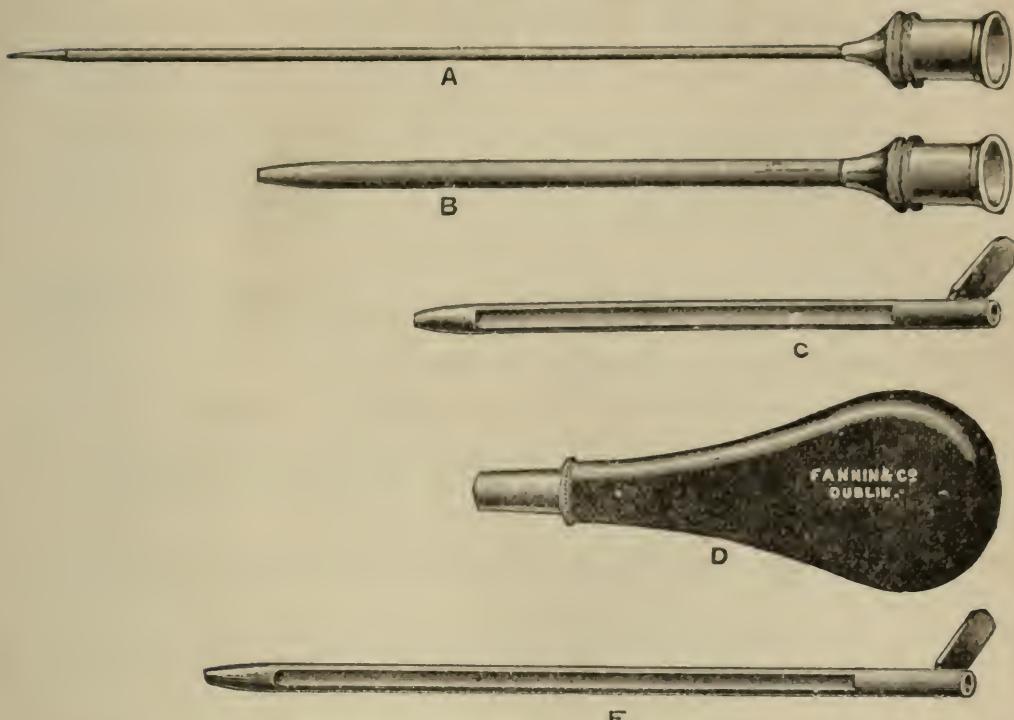


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MARCH 1, 1897.

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## PART I.

### ORIGINAL COMMUNICATIONS.

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ART. XI.—*Three Cases of Ectopic Gestation, with Exhibition of the Specimens in two of the Cases.*<sup>a</sup> By FREDERIC W. KIDD, M.D.; Master, Coombe Lying-in Hospital.

THE subject matter of my paper needs no apology from me for bringing it forward; it is one which has an interest for every medical practitioner who may chance to be called on to attend a pregnant woman, quite as much as for the obstetric specialist and the operating gynaecologist. My personal experience of ectopic gestation is limited to three cases, the notes of which I shall now place before you, afterwards making a few remarks about these cases, and drawing attention to some special points and to some valuable lessons I have learned.

CASE I.—V. S., married, aged thirty-five; admitted 14th August, 1895; never had any living children; had two abortions; last abortion eleven years ago, since which time menses have been regular, until about six or seven weeks ago.

*Physical Signs.*—Uterus both dextro- and ante- verted and soft; os patulous; tumour to the left side. Sound was passed normal length, with concavity anterior and somewhat to the right side.

*Previous History* was as follows:—Patient had been first seen by

<sup>a</sup> Read before the Section of Obstetrics of the Royal Academy of Medicine in Ireland, on Friday, November 27, 1896.

an outside doctor on 9th inst. ; she was then in a collapsed and almost dying condition. On the 6th inst., as she was dressing to go out, she was seized by a violent pain in the left iliac region ; she felt faint, but did not lose consciousness. She went to bed, and, though the pain diminished, she was troubled with palpitation and ringing noises in her ears. She noticed a slight haemorrhagic discharge from the vagina on this day, having at the time gone two weeks and 5 days past her regular time—i.e., it was almost seven weeks from her last menstruation.

On the following two days (7th and 8th) she felt a good deal better, but on the evening of the 8th, and all that night, she had very severe pain. A doctor was sent for early in the morning of the 9th, and found her greatly collapsed, as before mentioned ; she rallied under suitable restoratives, and the case was carefully watched. The question of intestinal obstruction was raised, as there was so much shock and the bowels had not moved for three days, but later on they acted, and were then well cleared out with castor oil, and again with calomel. For the next few days she seems to have been better, and then to have had another very severe attack of pain, followed by collapse. The abdomen was at this time extremely tender to the touch. The patient bore hypodermics of morphia badly, and was put on digitalis and opium. During this time there was a slight haemorrhagic discharge from the vagina, but it was intermittent. The doctor in attendance examined the patient per vaginam, and found the external os patulous, and a swelling at the left side ; but the abdomen was so tender that a bimanual examination was impossible, and, moreover, she was suffering from inflamed external piles. On the morning of the 14th the patient was seen by Dr. Winifred Dickson, and later on by the late Dr. George Kidd, and a probably ruptured extra-uterine foetation was diagnosed. On this morning the patient had rallied somewhat, and there was less abdominal tenderness, but examination was still painful. Two pieces of tissue (about  $1\frac{1}{2}$  in.  $\times$   $\frac{1}{2}$  in.) had come away from the vagina on that morning, and these looked like, and probably were, decidua membrane from the uterus. Their expulsion was accompanied by pain, which the patient said was like the pain experienced in her former miscarriages, but there was very slight haemorrhage. A tumour was felt at the left side of the uterus, and a soft indefinable mass in Douglas' pouch.

Dr. Kidd thought that with care the patient might be moved, and she was accordingly brought to the Coombe Hospital in an ambulance. The first doctor in attendance reported that the patient's temperature had been normal throughout the illness, but

that her pulse had been very variable, from 90 to 140. It was about 110 on the 14th. The patient looked very ill; her lips and mucous membranes were blanched, and she was said usually to have very red lips. She complained of violent headache, and said she had had cold perspirations. She has always been a delicate subject—small, pale, sallow, and of Jewish extraction. In early childhood her left elbow was excised, and there is still a small discharging sinus. Fourteen years ago her right foot was amputated by Mr. Treves for bone disease, apparently tubercular, like the elbow. She has been married twelve years, and the two miscarriages occurred during the first year. One was six weeks after marriage, and the other six months after marriage; the latter time she went about two and half months. Since then she was always perfectly regular until this occasion. She bore the journey to the Coombe Hospital very well, and after two hours rest she was put under chloroform, and examined by the Master, who confirmed the diagnosis of extra-uterine foetation. A tumour about the size of a hen's egg was found in the position of the left tube; the uterus lay anteriorly, and slightly to the right; the sound passed the normal length; external os patulous. As the bowels had been confined for two days it was decided not to operate until the following day, so as to have them well moved. The patient was given 6 grains of calomel, followed in the morning by a seidlitz powder and an enema, with satisfactory results.

On the 15th, at 12 30 p.m., the patient was put under chloroform, and the Master, assisted by Dr. Geo. H. Kidd, performed laparotomy. When the abdomen was opened a large quantity of fluid blood, more than a quart, escaped, and quantities of black clots were sponged away. The left tube and ovary were removed, and clots sponged out of the substance of the broad ligament, the folds of which had been separated by the haemorrhage. But little blood was lost, apparently, during the operation; what flowed away was nearly all dark, and not recent. The abdomen was washed out with hot boric acid lotion, and a gauze drain was introduced to pack the raw surface left in the broad ligament. The operation lasted about two hours, and was performed mostly with the patient in the Trendelenburg position. The patient bore the administration of chloroform very well, and rallied after the operation was over. The swollen part of the tube, about the size of an egg, was split open, and a perfect embryo about  $\frac{3}{4}$  inch long was found in the centre.

On the evening of the operation, as the patient had great pain, she was given a dose of the "three fifteens." This soothed her

only partially, so that another half dose had to be given, after which she slept for four hours. The external dressings were changed before she went to sleep, as there had been some discharge soaking through them.

On the morning of the 16th she seemed bright and well, but her tongue was very dry; pulse, 110. About 2 p.m. she suddenly seemed to get a change for the worse; a blueness showed round the lips. The drain had to be changed, and this was so painful that she was given chloroform, which she took well. Some dark-coloured bloody fluid welled up from the abdomen. This was sponged away, and a thin strip of iodoform gauze introduced. She complained of great pain during the afternoon, and got 15*m* of liq. opii. sed., but without much relief. She was also given gr. i. calomel every hour for six hours, followed by 3*i.* of sulphate of magnesia every hour, but the bowels did not act. Some flatus, however, passed during the night, and that gave her some relief. The "three fifteens" were again given during the night, and after that she got some sleep. All this time she was being fed with nutrient enemata—egg and beef tea, with some brandy occasionally, and only got teaspoonfuls of hot water by the mouth.

On the morning of the 17th the patient was evidently dying—her face was sunken, pallid, and pinched, and her hands were cold. She complained of great tenderness and fulness in the abdomen, which was found to be moderately distended. There was not much discharge on the dressings, and they were not foetid. A large enema with turpentine was given, but no faeces came away; the long rectal tube was then introduced. A large hypodermic injection, containing half a grain of morphia with atropia, was given to try and ease the pain. The patient died at 2 30 p.m. There was not, I regret, any autopsy feasible.

There are several points of interest in this case which I shall briefly advert to. Firstly, as to the time which had elapsed between the first symptoms of haemorrhage and the abdominal incision—nine days. This was a long period, and my reading of the case is that there really had been two haemorrhages—one, the first or primary, happening on the 6th when the tube ruptured into the folds of the broad ligament; she was then better until the night of the 8th, when she again almost collapsed. This was followed by a period of comparative freedom of pain, only to be succeeded by a worse attack of pain accompanied by collapse. I think one or both of

these later attacks of collapse were caused by rupture of the haematoma between the layers of the broad ligament into the general cavity of the peritoneum. At the time of the operation the injured broad ligament was found torn and very much lacerated, full of coagulated blood. Such a condition must necessarily very much diminish the chances of a successful operation, and carries out only too truly the axiom of Lusk, saying that "the resources of surgery are rarely successful when practised on the dying."

Secondly, were I to operate again on this case I would alter the *technique* of my operation very considerably—I would be more careful than I was to remove *all* of the blood-clots and blood from the pelvis and peritoneum. This I might have done more thoroughly, but was induced to hasten on the completion of the operation once I had the bleeding points tied. I would have introduced the normal saline solution in washing out the peritoneal cavity instead of boric acid solution, and I should have been tempted to drain through the vagina. The peritoneum was so injured by the secondary rupture that it was hopeless to draw it together again. The gauze drain really seemed to act more as a plug than a drain. I regret that the specimen in this case has been lost.

The following case (II.) differs in many of the salient points from the case that I have detailed. Firstly, the primary rupture took place into the folds of the broad ligament, and there never was any further rupture, so that the patient carried the product of conception in this gestation sac for a period of about twelve months. Secondly, she was seen at the hospital about the period when the primary rupture must have occurred, and her condition was not recognised; and thirdly, she made a remarkably good recovery. The details of her first visit to hospital are as follows:—

**CASE II.—M. M.**, aged twenty-four, married two years, was admitted on 30th Sept., 1895; had one seven months' child, born 18th Oct., 1894, which lived only six hours. Mother was removed to Cork-street Hospital from her own home next day with small-pox. In June, 1895, she aborted when three months pregnant, but could not assign any cause. Menses had been in abeyance for six weeks—from Aug. 2nd until Sept. 11th—but red discharge had

returned, and already lasted three weeks at the time of her admission into hospital, at first rather profuse, but lighter at time of admission, accompanied by severe pain in lower part of abdomen. At this time there was no rise of temperature higher than 99.4°. The lower part of the abdomen was very tender, so as to make any *satisfactory* examination impossible; there was troublesome constipation. The case was diagnosed as one of pregnancy, with threatened abortion and some slight localised peritonitis. I told her from the size I found what I believed the uterine tumour to be, that she must have made some error in calculation, and that she was longer pregnant than she thought she was. Rest in bed, a sleeping draught for first two or three nights, and careful attention in relieving the constipation, banished all her symptoms, and she was discharged *well* on the 19th. Unfortunately no further examination was made after the pain had been relieved, principally because any further examination might interfere with the pregnancy, having aborted so recently without any cause being assigned.

We lost all sight of her until she returned to the hospital on the 20th of the following July—a year all but twelve days from the time when she had the last regular menstruation—when she gave the following history:—Had had at times an irregular red discharge, sometimes preceded for a day by slight pain. Had no red discharge from October until March, when it lasted for a week; again in April, twice in May, and not since. Complained of obstinate constipation and frequency of micturition. On examination—vagina short; cervix small; os externum sufficiently patulous to admit the tip of the finger. Has a tumour extremely tense, having an indistinct elastic feeling, smooth on the surface, but seeming to have more resistance in some parts than in others; slightly more developed on the left side than on the right; cannot be freely lifted out of pelvis, but capable of slight motion; contents evidently very tense; extending nearly a hand's breadth above the umbilicus; dull on percussion. Measurements—from ensiform cartilage to symphysis pubis, 16½ in.; ensiform cartilage to umbilicus, 7½; umbilicus to left anterior superior spine of ilium, 10 in.; right side, 9 in. Circumference at umbilicus, 34 in.; one inch above, 33½; one inch below, 34¾.

Various diagnoses were made, nor was the question of extra-uterine foetation entirely forgotten. The uterus was discovered lying behind and to the right, and the sound passed into it a distance of 3½ in.

On the evening of the 24th patient complained of shivering and headache; temperature went up to 99°. Next evening it rose to

102°; she complained of pain in back and round hips. Abdomen seemed, if possible, more tense, but at level of umbilicus and towards left side you could now get a tympanitic note on percussion which did not exist before. This aroused the suspicion that some putrefactive changes were taking place in the tumour. That night the patient vomited green matter, and the temperature still remaining high we determined to operate at once, even though it was Sunday. The patient having been prepared in the usual manner, an abdominal incision was made about  $1\frac{1}{2}$  inches below the umbilicus towards the symphysis pubis. When the abdominal wall was incised, on account of the tenseness of the tumour, it was very hard even then to make out the relations of the parts. When the gestation sac was reached (it was not recognised as such at first) it seemed to be about one-third of an inch thick at least, and cut like uterine tissue. When incised there was an escape of the most foetid gas imaginable, then the body of the child coming into view established the diagnosis. The child, which I here exhibit, was removed. Before I thoroughly grasped the relations of this gestation sac in my mind, I had separated it above from the parietal peritoneum until I had made an opening above which communicated with the general peritoneal cavity. This I had to shut off by careful suturing afterwards, but I did it in fear and trembling lest some of the really putrid contents of the sac might possibly have got in.

Before the removal of the child I had cut the cord. On examining to find out the condition of the placenta I found it actually rotten, and could easily remove the major portion of it as a putrid, broken-down mass. The peritoneal cavity having been shut off by careful suturing, the cavity of the gestation sac was stuffed with iodoform gauze to keep its external walls close to the external abdominal incision. In this way adhesion must have taken place at once. There was not a single suture put in the incision. Naturally there was a very putrid discharge for some considerable time. I here submit a chart of her convalescence. With regard to her recovery there is very little to note; it was very prolonged, so much *débris* had to come away, and such a large gap had to granulate up. The original incision, which was large enough for me to deliver the child with ease, contracted until the cicatrix was only, at the most, three inches long. Several of the silk sutures, which I had inserted between the gestation sac and the parietal peritoneum, came away. The granulation tissue in the centre of the cicatrix would not completely close for a long time, although caustic, sulphate of copper solution, and other

methods were adopted, until finally curetting with a fine curette brought away a silk ligature that may have been causing sufficient irritation to keep it open; when this was done it rapidly closed. The patient was fitted with an abdominal belt and allowed to go about.

This case presents many points of interest, and is, or should be, certainly a warning to be more careful in our examinations and diagnoses. Had such a condition as extra-uterine gestation suggested itself to us when she came to the hospital on the first occasion we could hardly have failed to make the diagnosis. In extenuation of the fact that a definite diagnosis was not made in this case, it may be interesting to quote what has been written on the question of diagnosis by Tait and others:—

Tait says, when a patient is “in danger of death from conditions within the abdomen which do not seem to be clearly of a malignant nature, but a correct diagnosis of which is impossible, I open the abdomen and at once make the diagnosis certain, and a successful treatment possible.”

Tait adds, “*Absolute accuracy of diagnosis in the abdomen is very far from being possible; only the ignorant assert that it is, and only fools wait for it.*”

Strahan, in his “Essay on Extra-Uterine Foetation,” talking of the ease of diagnostinating between extra-uterine foetation and a small fibroid, says—“But it is a very different story in the advanced stage, or rather when extra-uterine gestation is over, and the remains of the foetus are consolidated in a mass close to the uterus; when all liquor amnii has been absorbed, and nothing characteristic of a foetus remains. This constitutes one of the most difficult cases for diagnosis which could be imagined, and a diagnosis of fibro-cystic tumour of the uterus is very generally made, often as a mere cloak for conscious ignorance.”

Again, in the same strain, Parry says—“Although from the careful perusal of numerous histories of cases of this nature some degree of facility of distinguishing their presence may be acquired after a certain period of their duration, and of *deciding*, even in *occasional* instances, on the particular variety of such pregnancies, yet assuredly every practitioner who has attentively studied the subject must admit the dis-

tinction to be a task of no ordinary difficulty. There only remains the exploratory incision as a means of diagnosis."

Tait says, "That even were opportunity of examining given, we should fail fifty times for once that we could be certain."

The patient told us on her second visit that the tumour had grown gradually, that she thought herself pregnant—even imagining at the time that she felt movement of the child, which must have been long dead. She said her breasts enlarged and were full until April, since when they had become quite soft and flat. She had *no* pains similar to labour pains at any time. There was excessive frequency of micturition, accompanied by some pain; there was constipation, but no pain when the bowels acted. Here we miss the usual pains described as "spurious labour." This is an exception to the rule of many cases—that ectopic gestation is preceded usually by a prolonged period of sterility. With regard to the danger of removing the placenta, although in a case of Depaul's fatal haemorrhage followed its removal four months after the death of the foetus, yet I think it was perfectly justifiable in this case. I removed nothing that did not come away just as broken-down tissue in my hand. The constitutional disturbance caused by the commencing putrefaction of the contents was quite sufficient indication for operation. This raises the interesting point as to how the putrefactive changes commenced in the above case. Was it through infection by the entrance into the sac of the *Bacterium coli commune*, and had the stripping up of the peritoneum as the gestation sac grew anything to say to the question of facilitating the advent of bacteria?

The third case is no less interesting than either of its predecessors. In this case we were able to make the diagnosis of "abdominal collapse" and haemorrhage without any difficulty, and, *par voie d'exclusion*, it could not depend on anything but a ruptured tubal pregnancy.

**CASE III.**—J. E., aged thirty years, married for the second time; first married about three and a half years ago to her first husband for ten or twelve months, when he died; never pregnant then; married to her present husband two years and four months. On January 7th, 1896, she had a full-time child, which she nursed for

about six weeks ; had to stop nursing as she had not enough milk for the child. On August 15th had an abortion at about two and a half months. Menstruation returned on 1st September, and lasted four days. On 28th or 29th of October she had a gush of haemorrhage with clots ; says she had pain, more or less acute, for some time in lower part of abdomen ; red discharge continued until she was operated on. On evening before admission she was making preparation for bed when she was seized with a sudden internal pain, succeeded by violent retching and very free action from the bowels ; she had what she describes as "three weaknesses, and sent for medical aid. The doctor on his arrival applied poultices without any very marked good results, and the pain continued up to the time of operation. The next day our Clinical Clerk, Dr. Maguire, was sent for, and, recognising the serious condition she was in, had her removed at once to the Coombe Hospital. I was telephoned for by Dr. Dickson to come prepared to open the abdomen, as she had diagnosed ruptured tubal pregnancy. This was about 3 30 or 3 40 p.m., and the evening was dark and gloomy. Acting on a hint from Dr. Dickson, I called on Sir Thornley Stoker and borrowed an electric lamp and accumulator. The lamp was fastened by an universal joint to a steel spring, which came from the back of the head over the forehead. Thus armed I went to the hospital, and within half an hour all preparations were made. The patient had had to get opium after she came into the hospital to try and relieve the pain. She was quite blanched when I saw her ; very restless ; barely able to enunciate a word ; skin in a cold perspiration ; pulse scarcely perceptible at the wrist.

When the patient had been put under chloroform an examination was made, both by myself and Dr. Dickson, for purposes of diagnosis. No bulging of fluid was detected in the posterior *cul-de-sac* ; the whole abdomen was tumid and tense, and when the patient was turned from one side to the other there was no difference in the percussion note at the same level, depending on the position of the patient, such as one usually finds with ascitic fluid.

The ordinary preparations could not be carried out, but the pubis was shaved, and the abdomen had had a carbolised pack put on after having been well washed with carbolic soap and water.

The patient was placed on a Trendelenburg table, which was not raised up at first. A small incision having been made, the peritoneum was reached ; it shone with that black back-ground typical of the free peritoneum when filled with blood. When incised a small fountain of fluid blood spurted out. A great deal of this was got

rid of by pressing the flanks upwards, then the incision having been enlarged, there was a very large quantity of clotted blood removed from the pelvis, having the appearance of black currant jelly. I may here say that a rough examination was made of these clots as they were removed, with the result that this body which I now exhibit was found imbedded in one which seemed larger than most others. It is undoubtedly an impregnated ovum, and was the only body we discovered. When most of this was removed the table was placed in the raised position, and the electric light brought to bear on the contents of the pelvis.

I shall never forget the picture that presented itself under the strong light, the sides of the incision being held open by tractors that were at the same time reflectors. The intestines having been pushed up towards the diaphragm, the uterus, the adnexa, and the injured tube were plainly to be seen. It was a matter of a very few minutes to draw up the ruptured tube, to ligature and remove it—three ligatures were all that it was necessary to use. The table was then lowered again quite flat. A good deal of blood had gravitated up to the diaphragm; hot normal saline solution was used to wash out most of this, and a considerable quantity of this was left in the peritoneal cavity. The incision was then stitched with Reverdin's needle and silk-worm gut in the usual way, and the usual dressings applied. The operation took only about five and thirty minutes. Several times the patient was almost moribund, and had to get brandy by the rectum and one or two hypodermics of ether. However, when the saline solution was poured into the peritoneum it had a most beneficial effect.

The patient's convalescence has been very good. The sutures were removed on the eighth day, and the dressings changed then for the first time. Incision well healed, except at one spot between two sutures, where one side had overridden the other. On the third night after the removal of the stitches the patient was discovered with her hand underneath the dressings, scratching the wound. Next day there was a blush over lower end of incision; this resulted in a small superficial abscess in wall of abdomen, which contained perhaps half a teaspoonful of pus. The patient is now quite convalescent.

The points worthy of note are—that in this case again the tubal pregnancy followed immediately after an abortion, contrary to the general rule. That even when the patient was under chloroform so little evidence of so much blood in the peritoneum could be obtained by palpation.

On examining the specimens before us obtained from this

case, one is very forcibly struck by the smallness of the ovum, and the smallness of the rent in the tube. That a woman may bleed to death from such an apparently small injury is rendered all the more credible when we remember that the haemorrhage irritates the peritoneum to throw out more lymph, and so retards clotting until the blood is in a very great preponderance.

A very noteworthy observation in this case is the immense advantage of working with the electric lamp, whose only inconvenience was that occasionally it touched the head of my consultant surgeon and assistant at the opposite side of the table when we both tried to look into the pelvis at once. He declared it burnt him a little. For the very excellent notes of the first case I am indebted to my assistant, Dr. Winifred Dickson. I am also indebted to the late Dr. G. H. Kidd and Dr. Purefoy for their assistance in the first of these three cases, and to my skilled consultant, Dr. Heuston, for valuable assistance in the latter two cases.

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**ART. XII.—*A Case of Extirpation of the Larynx for Cancer.***

By ROBERT H. WOODS, M.B., F.R.C.S.I.; Throat Surgeon to the Richmond Hospital, Dublin.

**CASE.**—J. M., aged sixty-five, came to the extern department of the Richmond Hospital early in June, 1896, complaining of aphonia which, he said, began ten months previously, and which he attributed to a chill. From the first his voice had got progressively weaker, and in about three months was reduced to a mere whisper. His breath had been getting short, and he complained, especially after prolonged talking, of some pain on the right side of the neck which now and then shot out to the right ear. He had lost a good deal of flesh, and was subject to a cough which kept him awake. He had always had to exert his voice very much in his occupation. There was no difficulty in swallowing; and no history of syphilis. His family history was unimportant.

On examination, the right side of the larynx was occupied by a reddish smooth tumour, jagged internally, extending from the opening of the larynx to below the true vocal cord, involving the epiglottis above and crossing the middle line both in front of and behind the air space. There was slight inspiratory dyspnoea. A lymphatic gland was palpable under the sterno-mastoid.

A small portion of the tumour was avulsed with sharp forceps for microscopic examination. A clinical diagnosis of epithelioma was made, but, pending the report, mercury and iodide of potassium were given internally in the hope that the lesion might prove specific.

The specimen was examined by Prof. O'Sullivan, pathologist to the Hospital, who reported it to be a squamous epithelioma.

The patient was made acquainted with the nature of his case, and a consultation held with the surgical staff, who were of opinion that though, having regard to the man's age and the lateness of his coming under observation, the case could not be regarded as a very favourable one, an extirpation might be undertaken if, after a full explanation of its risks, the patient was willing to have it performed. In this opinion Dr. R. A. Hayes, who kindly examined the patient with me, concurred. After consulting with his family he agreed that it should be done, and left all consideration of the operation entirely in my hands.

The operation was carried out by me, with the assistance of Sir Thornley Stoker, on July 10th. One-sixth of a grain of morphia was injected subcutaneously, and the man chloroformed twenty minutes later. A sandbag was placed at the back of the neck, and the head fully extended. An incision was made in the middle line from the hyoid bone to the sternum, laying bare the thyroid and cricoid cartilages and the trachea. A second incision was made from sterno-mastoid to sterno-mastoid transversely over the thyrohyoid space, thus forming a T. The triangular flaps of skin and subcutaneous tissue were reflected outwards, and high tracheotomy performed. Chloroform was administered through the tracheotomy tube, by a Trendelenburg's apparatus, during the subsequent stages. The thyroid cartilage was so infiltrated that it parted readily under the knife—though a circular saw, one inch in diameter, worked by an electromotor had been provided in anticipation of its being calcified. The larynx was opened in the middle line, and its cavity inspected. Its right wall was occupied by an irregular tumour, presenting internally an excavating ulcer with a sloughing floor and infiltrated and raised edges. The overhanging false cord screened the ulcer when viewed from above; the necrotic process had burrowed up under the false cord so as to make a pouch with its mouth downwards. The growth extended across the middle line both fore and aft, and clearly indicated complete excision as the only course. A sponge, with string attached, was next packed from the larynx into the trachea above the tracheotomy tube, so as to avoid the descent of blood and ensure his getting enough chloroform.

The sterno-hyoid and sterno-thyroid muscles were cut at their insertions on either side, and the larynx freed laterally partly by dissection with a blunt instrument, and partly with scissors. Vessels were ligatured as they were divided, to avoid the encumbrance of pressure forceps in the wound.

Before severing the windpipe silk threads were passed through its walls on either side of the tracheotomy wound, so as to command it if necessary. The trachea was next cut transversely below the cricoid cartilage, and the lower end of the larynx drawn forwards. The œsophagus and inferior constrictors were detached from its posterior aspect, care being taken not to buttonhole the gullet. The epiglottis, thyro-hyoid membrane and their adnexa, by which alone the part was now held, were severed transversely, and the larynx removed. On inspection, however, it was found that the final incision had gone through an infiltrated portion of the epiglottis, and it was thought safer to amputate it at the base of the tongue ; this was accordingly done.

The primary disease was thus entirely removed ; a careful search was next made for enlarged glands. One only could be felt ; it was taken away through a separate skin incision, so as to avoid the contamination to which the principal wound must inevitably be subject.

The wound was sutured on the plan practised by Solis-Cohen, of Philadelphia, in his celebrated case, which I had the privilege of demonstrating at the Surgical Section of the Royal Academy of Medicine in Ireland. The tracheotomy tube was withdrawn, and the edges of the trachea where the slit had been made for the tube were separated, and each sutured to the skin on its own side of the central incision. The anterior wall of the gullet was brought forwards over the trachea like a cowl, and sutured to the skin and raw surfaces in such a way as to completely shut off the air-passage from the pharynx. It will thus be seen that the man breathed, without any tracheal tube, directly on to the skin of his neck. A No. 14 red rubber stomach-tube was pushed down the œsophagus, passing between two sutures in the transverse wound, and was secured *in situ* by a tape passing round the neck ; this was left in for the first twenty-four hours.

I stayed in hospital practically the whole of the rest of the day of operation, and slept there that night, fearing that, as happened in Solis-Cohen's case, some emergency might arise or accident happen with which the resident staff might not have been competent to deal. The man had practically no pain, and suffered no shock.

Only once was I called out of bed, when it was necessary to remove some dried mucus from the opening.

The patient was fed twice or three times daily with milk, corn-flour, &c., by the tube. Once while being fed it was found that it regurgitated along the oesophagus, and appeared in his pharynx, it welled through the wound, and made its way into the trachea. Thanks, however, to a suction apparatus (described under the name of a "blood-sucker"—Trans. R. A. M., 1896) it was promptly removed, and, beyond causing him a temporary cough, did him no harm. We marked the stomach-tube so that whoever should in the future feed him might know when both eyes of the tube were in the patient's stomach.

For twelve days the temperature was quite normal, it then rose to 99.6° F., the apparent cause being slight oedematous pharyngitis. The stools were remarked to be rather offensive, and he was given salol in ten-grain doses.

He developed some cough, but kept very fairly well until June 27th, when he showed symptoms of pneumonia, from which cause he died two days later, on the nineteenth day after operation.

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ART. XIII.—*Clinical Pictures of Children's Diseases.* By  
LANGFORD SYMES, M.R.C.P.I., &c.; late Clinical Assistant  
and Deputy Medical Registrar and Pathologist, Hospital  
for Sick Children, Great Ormond-street, London.

(Continued from page 108.)

## II. SPLENIC ANÆMIA.

THESE short illustrations of children's diseases are only intended as the most elementary and introductory sketches. They merely aim at being in some small way interesting or useful, as they are based on clinical observations. The subject is enshrouded in so much mystery, even at the present day, that one naturally aims at clearness and conciseness in order that the main facts or landmarks of these peculiar diseases may be the more easily grasped, and stand out in relief. Therefore no lengthy descriptions or philosophical discussions will be undertaken here. We must recollect that many diseases and conditions of infants and young children are still undescribed and ill-understood. The practitioner meets with cases in which a diagnosis, according to our stereotyped classifications, can scarcely be made—cases which

do not fit in with our recognised types of disease, and which have no true description in medical literature.

One may define this disease as "a persistent and intense anaemia affecting infants and young children, accompanied by enlarged spleen and usually by rickets." It has not been properly investigated and described yet. Much work lies here untouched. We are gratified to know it was first depicted by an Irish observer, Dr. Francis Battersby, Surgeon to the Institution for Diseases of Children in Pitt-street, Dublin, who published his careful observations in the *Dublin Quarterly Journal* of May, 1849, as "Tumefaction of the Spleen in Children." Continental and English observers have since confirmed many of his results.

It occurs amongst the wealthy classes just as in poor children. There is a disposition to haemorrhages, and there are profound changes in the blood. There is a condition of leucocytosis, which has sometimes developed so great an increase of white blood-cells as to resemble leucocythaemia, and "borderland," or composite cases, occur which are most puzzling. It has been observed in infants as young as three months, though it will usually be discovered at from nine to fifteen months.

Very few writers have noticed it, but it is a disease stamped indelibly with unfailing characteristics peculiarly its own, and forms a remarkable picture at the bedside.

Of the antecedents and cause of this disease our knowledge is imperfect. Our chief investigations hitherto tend to attribute it to one of two profound morbid processes—viz., rickets or "congenital syphilis," and its aetiology is rendered more obscure by the fact that "Parrot's nodes" and "bossing" of the infant's skull, so often associated with it, are by some observers held to signify rachitis, and by others pronounced syphilitic.

The fact remains that Parrot's nodes are often found in splenic anaemia, and further, that some cases do well on mercurial treatment. It has even been asked, "Does syphilis cause rickets and rickets cause this disease?" Nearly all cases have rachitic lesions, and some have both rickets and syphilis. Then, again, its association with syphilis may be accidental.

Dr. Packard, of Philadelphia, adduces from various sources the following statistics, which, thrown together in a table, may help us to see the peculiar relations between the three conditions :—

30 cases of splenic anaemia revealed	27 of rickets and 14 syphilis (Dr. Carr)
63     "     "     "     "	63     "     "     25     "
60     "     rickets	44 enlarged spleens     2     "
105     "     "     "	15     "     "     "
84     "     bad rickets	37     "     "     "
155     "     congenital syphilis	74     "     "     "

In Berlin, where Henoch observed it, rickets abounded, and many of his splenic anaemia cases were therefore seen in rickety children ; but his evidence is not conclusive, for he says that in rickets he has "rarely found an enlarged spleen"—an experience at variance with ours in this country. Its aetiology is therefore still obscure. It has also been attributed to a pure anaemia, but I believe its origin cannot be thus simply set aside, and that more profound processes must underlie this condition. There are, however, great defects in the haemogenous organs. Malaria was at one time spoken of, but it is very doubtful. It certainly does not play any rôle in the majority of instances.

Selecting six cardinal symptoms or signs of this disease the most striking are :—

1. *Anæmia*.—The *facies* is very suggestive. The face is pale and rather puffy, and there is marked anaemia of the lips and conjunctiva. It may be perfectly bloodless, or have a waxy, pallid, bluish hue. Most commonly there is a decidedly yellow, sallow, splenic tint with the anaemia. The skin generally is sallow ; there is a yellowish, creamy-white appearance and a brilliant yellow, sulphur colour about the cheeks and forehead. This gives the child a very *serious* look, but the eye is bright and "seeking." The pallor is sometimes extreme. The complexion is scarcely ever devoid of these characteristics. I have very often observed brilliant yellow patches in spots over the white face.

2. *Enlarged spleen*.—It can often be seen ; I have frequently mapped it out from sight. It is very hard and smooth. The edge is sharp and notched, and it is painless, and you can handle it freely.

3. *Blood changes.* An examination shows :—

Loss of red cells.

Loss of haemoglobin.

Some increase of white cells, a state of leucocytosis, which varies in amount, but a true leucocythaemia is very rare.

The red cells do not form rouleaux as in health.

There are also many small globules, granules, and microcytes, which, it has been suggested, may be partially-developed red cells. Some large branching leucocytes are also seen.

4. *Rickets.*—This is very common, as evidenced by sweating,

Parrot's nodes, beading of the ribs, especially the 6th and 7th; rickety chest, rickety joints, craniotabes, enlarged belly, or enlargement of ends of the long bones.

5. *Haemorrhages*—i.e., blood extravasations, epistaxis, petechiae, haematemesis or bleeding from the gums, and a tendency to bruise easily.—I have seen large ecchymoses on each knee after slight tapping to bring out the patellar tendon reflexes. Blood may also be voided with the motions.6. *Œdema, especially of the feet.*

Then irregular fever, diarrhoea, lassitude and weakness, mucous catarrhs, pica or depraved appetite, complete the picture. It should also be remembered that the child is not always thin.

The following case is a fair example of the disease :—

**CASE.**—H. T., a boy aged fifteen months, was submitted to me for examination. The history was as follows :—About two months previously the child began to waste and got very white; he was subject to vomiting since birth; he was getting worse of late; bowels always irregular; subject to attacks of diarrhoea; never takes food well. Never had the breast, but was fed on cow's milk and barley water, then milk and Ridge's Food. No history of thrush, rashes, or snuffles. Teeth appeared normally, and had two teeth at two months. Birth was difficult, and instruments were used, and the mother had a fall downstairs when seven months pregnant. There were four other children living, and healthy; no miscarriages. First child died as a baby; mother has always been

well; no history of tubercle. The father was a cardriver, and healthy. They lived in four rooms, which were not damp, and there were no privations.

On examination the child appeared thin; the skin was loose and flabby; no marked emaciation; face pale and rather puffy, and had a yellowish tinge; *marked anaemia of lips and conjunctivæ*. The skin generally has a sallow appearance; the child sits and lies comfortably in bed; the anterior fontanelle is nearly closed (about  $\frac{3}{4}$  inch in transverse and  $\frac{1}{2}$  inch in antero-posterior measurements); *craniotubes* present behind and above the left mastoid; *beading of the ribs and ends of long bones somewhat enlarged*; no œdema or purpura; the upper lids look rather puffy. Respirations, 46; no obvious dyspnoea; considerable mucopurulent discharge from nose; lower note on each side of chest rather impaired from liver and splenic dulness. Pulse, 136; heart's apex beat cannot be made out by palpation; area of cardiac dulness is one finger's breadth outside left nipple, to the left margin of sternum, and second space. A *systolic murmur* exists at apex, but both first and second sounds heard also. At pulmonary cartilage a loud, harsh systolic murmur is heard, with a normal second sound. Tongue clean; abdomen distended; *spleen* felt to fill up a large part of the abdominal cavity; liver is  $1\frac{1}{2}$  fingers' breadth below the costal arch; glands somewhat "shotty" in both posterior triangles of neck.

Three weeks later, or about eleven weeks from the commencement of the disease, the spleen was  $2\frac{1}{2}$  inches below the umbilicus, and seemed to measure  $5\frac{1}{2}$  inches longitudinally and  $4\frac{1}{4}$  transversely. The child screamed at night, and the *motions were streaked with blood* and mucus.

The twelfth week was marked by continuance of blood in the stools and greater enlargement of the liver. The child was put upon elixir of bone marrow, but it had to be withdrawn on account of diarrhoea.

In the fifteenth week a *blood estimation* showed:—

Red corpuscles, 40 per cent.

Hæmoglobin, 20 "

White cells, 1 to 44 red cells present.

The temperature rose to  $103^{\circ}$ , for which no cause could be found. There were patches of subcutaneous hæmorrhage over the left eyebrow the size of a threepenny piece.

In the eighteenth week the child was bloodless and pale, but taking food well. Pulse, 176; spleen transgresses umbilicus and pubes. Child had waxy anaemic skin, and a yellowish, creamy-white appearance; *hæmorrhagic ecchymoses* over left chest and

right knee ; the upper gum was swollen with a tumid purplish swelling ; not bleeding, but has the appearance of a severe contusion ; gum was not tender, and there was no sponginess of rest of gums. This condition of the gum got well in ten days—child getting a yellow, sulphurous tint about cheeks and forehead. Another blood estimation revealed :—

Red cells, 45 per cent.

Hæmoglobin, about 30 per cent.

White cells, 1 to 70 of red present.

In the twenty-second week a purpuric eruption was noticed over the left hypochondrium in neighbourhood of spleen, and spleen was  $2\frac{1}{2}$  fingers' breadth below the umbilicus ; skin was wrinkled and shining, as if œdema had stretched it.

By the twenty-seventh week loud systolic bruits existed over both sides of the cardiac base, especially pulmonary, and over both sides of the neck. Some blood still passed in the stools—a considerable amount on several occasions ; spleen as before.

In the thirty-fourth week I examined this child again. There was some glandular enlargement in the neck, but he had remarkably improved. He was fatter, brighter, more cheery and hopeful-looking than before, and ate a great quantity for his age. He was then improving.

In the diagnosis of splenic anæmia many other affections must be recollected. The diseases which most resemble it, and with which it is most likely to be confounded, are :—

1. *Leucocythaemia* (Splenic form).

This must be chiefly eliminated by a careful blood estimation, when it is recognised by—

Red cells very little decreased.

White cells are enormously and permanently increased from about 1:20 to 1:5 or more (instead of 1:300), especially is there an increase of the coarsely granular polynuclear eosinophiles.

2. *Hodgkins' Disease, or Lymphadenoma, Lymphatic Anæmia.*

Here, the lymphatic glands being greatly enlarged, especially in the neck and axillæ, dyspnoæ and the enlarged tonsils will help to distinguish it. While the blood shows red cells greatly decreased ; very slight increase of white cells, a slight leucocytosis.

Rickets, syphilis, tubercle, lardaceous disease, enteric fever,

ague and relapsing fever also produce enlargement of the spleen ; but the association of symptoms above tabulated are generally sufficiently characteristic to distinguish splenic anaemia.

It is sometimes extremely difficult to discriminate between a tumour of the left kidney and an enlarged spleen, even after the child has been placed under chloroform.

A strange case has been recorded recently\* where there was enlarged spleen, œdema of the legs and eyelids, petechiæ on the legs and arms, and epistaxis, with anaemia, and in which these symptoms completely disappeared on the expulsion of a tapeworm (*tænia solium*) from the bowels.

In leucocythaemia the proportion of white corpuscles to red is usually greater than 1: 20. But a leucocythaemia in process of development may closely simulate this disease. In this case there was considerable leucocytosis, the white cells being 1: 44.

What do we know of the pathology of splenic anaemia? Very little is absolutely certain regarding it. Is this a rickety spleen? or is it another disease in a rickety child? Has it any bony connection? or is it syphilitic? We cannot tell at present. We do not know where syphilis ends. Possibly it is rickets and syphilis both combined and mixed up together. One case I have seen where the child had snuffles, two other children of the same family had died with convulsions and wasting, and there were two still-births. Syphilis was perhaps a cause here. Then these cases go down sometimes under mercurial ointment. Both syphilis and rickets play some rôle in this condition, and it is beyond doubt that it is very closely connected with rickets.

The spleen itself seems to be a simple hypertrophy—a fibrosis. The course of this disease is essentially chronic. In the foregoing instance improvement was very marked only after nearly 10 months' duration and 8 months of treatment. Haemorrhages and ecchymoses of the mucous membranes, with blood in the motions, may be met with during its existence, and I have seen diarrhoea profuse, and sufficient to cause great anxiety. The child may succumb to the prolonged and increasing exhaustion, or some intercurrent

affections, as pneumonia or measles. From my own experience I should say diarrhoea is a formidable complication.

Of the prognosis in these cases we cannot speak with certainty. The number of those that recover seem to be slightly over those that die. I have seen some distinctly but slowly improve in a month or two, while some recover completely. Dr. Carr<sup>a</sup> gives the following analysis of the 30 cases observed by him :—

13 recovered.	6 disappeared.
10 died.	1 remained stationary.

If distinct increase of white blood-cells is discovered on a blood estimation being made, it is not a good sign. Many children with chronic splenic enlargement die with progressing anaemia, wasting, and dropsy. It is a very intractable disease, even the syphilitic cases, and we must recollect that the spleen responds very tardily to drugs.

Dr. Donkin believes that the ultimate prognosis is bad.

On a *post-mortem* examination of these cases the spleen is found affected with a true hypertrophy. It is tough and heavy, with a thickened and adherent capsule, and it is firm and hard from increase of fibrous tissue. There will usually be found signs of rickets, or perhaps some evidence of inherited syphilis. The treatment of this affection must be persevered in for a considerable time. Changes in the drugs and diet administered will frequently have to be made. Perhaps the best thing we can commence with is :—

*Arsenic.*—About m. 1 or m. 1½ of Fowler's solution three times a day. Many physicians give much larger doses of arsenic to young children, but in this disease it is not, I think, advisable. Arsenical neuritis is easily produced in children, and I have frequently observed it cause diarrhoea, which is difficult to check. It is said that if there is inanition, signs of tubercle in the lungs, or glandular swellings, arsenic is especially valuable.

The next preparation to rely upon in the management of these cases is *bone marrow*. This is a food possessed of therapeutic qualities. It is taken well. The elixir of bone marrow made by Messrs. Allen and Hanbury has given

<sup>a</sup> "Textbook of Diseases of Children." Edited by Dr. Louis Starr, 1895.  
Vol. i., p. 386.

excellent results. Thirty minimis twice a day can be given to a child 15 months old. This, again, may perhaps set up diarrhoea, for it takes very little to produce it in these cases. This bone marrow may be given alternately with arsenic as occasion suggests, and it must be remembered that it does not always act as we desire. If diarrhoea is set up it will require careful and special treatment.

Equally, or perhaps more important than these, is the dietary of the child. Milk diet,<sup>a</sup> if it agrees, with sponge-cake; beef tea; raw meat-juice, about  $\frac{3}{4}$  i. daily; gravy. There are few things so beneficial to young children as gravy, and one of the best ways of administering it is to mix it in the infant's milk. A small quantity, thus given, I have seen produce marked improvement. Moreover, they take it admirably, and it is not at all disagreeable. Arrowroot may be given in alternate meals. Peptonised milk, with barley water, or peptonised and boiled milk alternately, especially if diarrhoea be present.

Should any unhealthiness of the gums exist, or hæmorrhages, or any evidence of scurvy appear, the child should have some orange-juice—say the juice of half an orange daily; grape-juice may also be given, while the gravy and meat-juice should be persevered in.

The hygienic surroundings of the child must be good, and fresh air and ventilation obtained. If able to go out or travel, sea air should be sought, and Dr. Eustace Smith's advice followed by bringing the child out, well clothed, *with a flannel binder*, in a well-padded carriage, with a hot bottle to its feet.

Some preparations of iron have been given, also quinine and cod-liver oil. Mercury also has benefited some cases, but unless some syphilitic taint be, with reason, suspected, it is perhaps wiser not to mercurialise the child.

(To be continued.)

<sup>a</sup> The milk diet usually given at the Hospital for Sick Children, Great Ormond-street, is—

Breakfast, 8 o'clock: Milk,  $\frac{1}{2}$  pint; bread, 2 oz., with butter.

Dinner, 12   , : Rice or other milk pudding; milk,  $\frac{1}{2}$  pint, or beef-tea,  $\frac{1}{2}$  pint.

Tea,       4   , : Milk,  $\frac{1}{2}$  pint, with 2 oz. of bread and butter if desired.

Supper,     6   , : Milk,  $\frac{1}{2}$  pint, with 2 oz. of bread and butter if desired.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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#### *RECENT WORKS ON DISEASES OF THE EYE AND EAR.*

1. *Diseases of the Eye and Ophthalmoscopy: A Handbook for Physicians and Students.* By DR. A. EUGEN FICK. Translated by ALBERT B. HALE, M.D. London: H. Kimpton. 1896. 4to. Pp. 488.
2. *Handbook of Diseases of the Ear, for the use of Students and Practitioners.* By URBAN PRITCHARD, M.D. (Edin.); F.R.C.S. (Eng.) Third Edition. London: H. K. Lewis. 1896. Cr. 8vo. Pp. xvi. and 275.
3. *Manual of Diseases of the Ear, including those of the Nose and Throat in relation to the Ear, for the use of Students and Practitioners in Medicine.* By JOSEPH BARR, M.D. Second Edition. Glasgow: James MacLehose & Sons. 1896. 4to. Pp. 415. With 229 Illustrations.
4. *Modern Optical Instruments and their Construction.* By HENRY ORFORD. London and New York: Whittaker & Co. 1896. 8vo. Pp. 100.
5. *Color Vision and Color Blindness: A Practical Manual for Railroad Surgeons.* By J. ELLIS JENNINGS, M.D. Univ. Penna. Philadelphia: F. A. Davis Co. 1896. Crown 8vo. Pp. 110.
6. *Skiascopy, and its Practical Application to the Study of Refraction.* By EDWARD JACKSON, A.M., M.D. Second Edition. With 27 Illustrations. Philadelphia: The Edwards and Docker Co. 1896. Pp. 108.
7. *Notes on the More Common Diseases of the Eye.* By ROBERT W. DOYNE, F.R.C.S. London: H. K. Lewis. 1896. 8vo. Pp. 47.
1. DR. FICK, as his apology for presenting the world with this book, says that "our best text-books of ophthalmology are too exhaustive; so it seems that for a compactly-written

book, in spite of the number of others already in hand, there is still a place." Again he says: "A text-book may be short and yet complete only at a sacrifice of some detail." "To make the book easier for the reader" he has used "a goodly number of coloured illustrations, and has introduced them into the text; this was a difficult matter, and the reader will probably understand why he has not been altogether successful in reproducing the exact colours with perfect accuracy."

We quite agree with the author, he has not been successful with his coloured illustrations, for anything more utterly crude we have seldom seen; nor do we accept his excuse of difficulty, for a similar difficulty has been most successfully overcome in some of the British text-books, notably Berry's Diseases of the Eye, published by Pentland, of Edinburgh.

Figure 51, p. 123, is quite misleading in its misrepresentation of the macula lutea and retinal veins; yet the author has ventured to insert the words "(After Jaeger)" below the picture. It is, indeed, a very long way after Jaeger! Still further removed from verisimilitude are those pictures illustrative of appearances seen in "transillumination;" for example, that on p. 273, which also bears the libellous words "After Jaeger." Nor are the uncoloured pictures always even reasonably good, for another "After Jaeger," illustrating follicular catarrh, p. 197, is no great credit to the reproducer of it.

In the text the author has, we fear, often sacrificed clearness to brevity (a fault not common with German writers). On page 158 he says: "Treatment of ankyloblepharon consists of an operation called *canthoplasty*. The adhesions are separated by a horizontal incision, leaving a wound with a V-shaped surface (Fig. 61). Suitable sutures, as shown in Fig. 61, provide for proper union and prevent re-adhesion in the old form." That is all; and the illustration, which is labelled "Ammon's Canthoplasty," adds but little to the explanation of this really difficult operation.

Somewhat incomprehensible statements are at times made, probably due to the somewhat free translation of the original, as when speaking of staphyloma corneæ, page 257, we read "the ciliary body is thereby still more dragged upon, *with the consequence of shutting up the circulus vitiosus*" (the italics

are ours). Of course we can see what the author meant, but it is doubtful if the translator did.

But, on the whole, the author and translator and the publisher are to be congratulated upon their work; the book is interestingly written and accurate for the most part, and the translation is freer from obvious errors than is often the case.

We do not, however, think that the students of medicine in these countries will care to possess this book, as there are so many others already available which seem to us in every way to be preferred.

2. IN preparing a third edition of his work, Dr. Pritchard has carefully revised the whole, has re-written a large portion, and has added about thirty pages of new matter.

The great strides that have of late years been made in the diagnosis and operative treatment of mastoid troubles and intra-cranial suppuration have induced him to re-write and considerably amplify this portion of the work.

Of the other alterations the most important are—(1) The section dealing with the chief methods of operating for the removal of adenoid vegetations in the naso-pharynx has been considerably elaborated. (2) The operation for the removal of the ossicles is described and commented upon. (3) The condition known as cholesteatoma has been separately dealt with. (4) A brief sketch of disease of the bone capsule of the labyrinth (Politzer) has been given.

A few of the illustrations have been changed, and four new ones added, including among the latter a section showing the fibrous bands fixing the stapes to the walls of the bony pit in which it is situated.

The third edition, therefore, brings this deservedly popular work up to date. It gives a succinct and well-written description of the diseases of the ear, quite equal in merit to any of Lewis's Practical Series, to which it belongs.

3. As this is a second edition of Dr. Barr's useful work, and we have already given a very favourable review of the first edition, it is not necessary to go into much detail.

In style and appearance the present volume differs considerably from the previous edition. The size of the page has been increased, and the general type is larger.

There are three additional chapters, and the number of illustrations has been doubled ; on the other hand, the pages, being larger, are fewer in number.

Of the additional illustrations thirty-four are from process blocks, which are reproductions of photographs, depicting, more especially, methods of examination and treatment.

The whole work has been carefully revised, and, to a considerable extent, re-written.

The aim of the author has been to produce a work neither too bulky for the student nor too meagre for the practitioner, and we congratulate him upon the very successful accomplishment of this exceedingly difficult compromise. The present edition of Dr. Barr's work will, we have no doubt, prove as successful as the first, and hold its place as the best of its kind in the English language. It is concise without being incomplete, and its descriptions are clearly given in excellent language. Style has not been sacrificed to brevity, nor is there a superfluous word in most explanations or descriptions. The author and the publisher we cordially congratulate.

4. MR. ORFORD, in his preface, states that his main object in compiling this book was to place before the reader a descriptive outline of a few of what may safely be termed the more popular optical instruments in use.

Taking the human eye as the most important, most instructive, and certainly the most valuable optical instrument known to science, its construction and properties are first of all dealt with in detail. This is followed by an explanation of the defects and aberrations to which our eyes are not infrequently subject.

The succeeding chapters deal with "The Properties and Aberrations of Lenses—Aberrations of the Eye," "Examination of the Eye—the Ophthalmoscope," "Ophthalmoscopes and their Uses," "The Morton Ophthalmoscope," "Various forms of Ophthalmoscopes," "Retinoscopy," "Spectacles and their Selection," "Stereoscopic Projection—Anderton's

System," "The Principles of the Optical Lantern," "The Stereoscope," "The Spectroscope."

Before any author can hope to be successful it is necessary that he should know something of his subject and be capable of expressing his meaning in accurate and lucid language. Mr. Orford may possess in the highest degree the first qualification, but is sadly lacking in the second, and as both are indispensable, we fear his book will not prove the success which he should hope for until, in another edition, he re-writes much that now is unintelligible or inaccurate.

The first chapter is, in these respects, the worst. We can mention only a few out of many instances. Page 5: "The space between the crystalline lens and the retina is filled with another transparent fluid, somewhat more viscous than the former, *and therefore called vitreous humour!*"

On page 6 we read: "There are, therefore, three surfaces at which refraction takes place; *the first surface of the convex and the two surfaces of the crystalline lens.*"

On page 11 we are told that "for a perfect stereoscopic representation *the points* at an infinite distance must fall on corresponding points of the two retinas, where the axes of the eyes are parallel. If the pictures are brought nearer to each other in the same plane than in the positions thus determined the impression is exactly that of a relief picture."

Of course to anyone already acquainted with the subject the necessary corrections are easily made, and we can see what he wishes to say, but this book is obviously one for beginners, and as such should be very clear in its statements and incapable of misinterpretation.

5. THIS excellently-compiled and clearly-expressed treatise on a subject of such paramount importance as colour vision and colour blindness cannot but prove useful not only to those for whom it is specially intended, but to all who wish for a clear and succinct account of the present condition of the subject from a practical point of view. After a brief "historical introduction" some pages are devoted to the "Physiological Anatomy of the Retina." This is followed by a chapter on the "Physics of Light" and "Color Sensations," and by one on the "Theories of Color Perception and Color Blindness."

Chapter V. deals with "Color Blindness," its classification, frequency, &c., and is followed by a description of the "Methods for Detecting Color Blindness," "Selection Tests," "Pseudo-chromatic Tests," "Contrast Tests," "Special Tests," &c. "Acquired Color Blindness" is then discussed.

A useful chapter is that in which Dr. Jennings gives the "Pennsylvania Railroad Company's instructions for examination of employees as to vision, color blindness and hearing." Also a "description of Oliver's series of tests for the detection and determination of sub-normal color perception (color blindness), designed for use in railway service."

Speaking of acquired colour blindness he lays it down as established that "Re-entrant angles, even for one color with normal outer limit, intermingling of the color-limits, destroying their normal succession and changing concentric curves into zigzag lines, must always be considered as pathological." He uses the term "nyctalopia" as meaning that "vision is better in the evening than it is in the day-time." In this use of the term he differs from most English writers of the present day, though the correct use of this term and hemeralopia is not yet universally agreed upon.

In his preface the author states that he "does not claim to be original, but has endeavoured to produce a practical work on color-blindness which shall contain all that is essential to a perfect understanding of the subject, and to refer the reader to the proper authorities for many of the facts stated." That he has admirably succeeded in his endeavour is beyond doubt, and we can recommend this book to anyone requiring an easy, up-to-date, and accurate account of the subject.

6. THIS, being a second edition, does not require a very exhaustive notice. The book, Dr. Jackson says, was originally "written to bring about the more general adoption of skiascopy as an essential part of the examination for ametropia. It is not supposed that any ophthalmologist is quite ignorant of the test; but many do not know its full practical value, or how best to apply it." He then gives five reasons why this subject claims a careful con-

sideration. The book is divided into eight chapters, a preface, and an index. The first deals with the history, name, difficulties, and method of studying the test; the second deals with "General Optical Principles;" the third with the "Conditions of Accuracy;" the fourth is on "Regular Astigmatism;" the fifth is on "Aberration and Irregular Astigmatism;" the sixth and seventh explain the "Practical Application with Plane Mirror" and with "Concave Mirror;" and the final chapter deals with "General Considerations"—apparatus, mydriatics, and the relative advantages of plane and concave mirrors.

The subject is treated in a fairly exhaustive manner, and, considering its difficulties, the author has fairly well succeeded in explaining his meaning, though in places his method of expression is not perfection.

The chapter which deals with positive and negative "aberration" and with the "scissors-like movement" is decidedly good.

On the whole, we know of no book which gives a more complete account of the test, and consider that the author deserves to be congratulated upon the well-merited success of his work.

7. THIS is one of those little booklets that always excite our wonder—first, on behalf of the author who writes; and secondly, on the part of the purchaser who cares to possess. Of its kind it is good, in that it contains no incorrect instructions or dangerous generalisations which so often mislead.

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*A System of Gynæcology.* Edited by THOMAS CLIFFORD ALLBUTT and W. S. PLAYFAIR. London: Macmillan & Co. 1896. 8vo. Pp. 958.

THE first volume of the System of Medicine, edited by Dr. Clifford Allbutt, the Regius Professor of Medicine in the University of Cambridge, has already been reviewed in this Journal. The volume before us deals exclusively with Gynæcology, and the compilers may be congratulated on the numerous array of British gynæcologists—for the most part

of unchallenged eminence—who have contributed to its pages.

We do not believe that this work will ever be republished, but think it will remain a book apart from all others for many years to come. As a *Gynaecology* it is an utter failure, but as a work containing the original writings of such names as Thornton, Sutton, Smyly, Playfair, Henry Morris, Berry Hart, Doran, Cullingworth, Barbour, and Ballantyne, it cannot fail to command respect.

Our reasons for believing the book to be a failure as a work on *gynaecology* are twofold. In the first place, the effort to treat this specialty as one within the domain of medicine has been most unsuccessful. *Gynaecology* is altogether surgical in its methods, and even the casual reader can note the undisguised restraint in which one writer after another deals from a medical standpoint with the subject before him.

Secondly, the effort to apportion the work amongst twenty-six contributors has resulted in a vast amount of repetition, and this unfortunately, for the most part, of the padding type. On the other hand, omissions are noticeable everywhere, while many of the sections are by no means suitable for the writers.

Dr. Handfield-Jones in the first thirty pages deals with the Development of Modern *Gynaecology*. He has succeeded in making his subject both interesting and instructive. He curiously refers to the two old methods of treating the stumps in *hysterectomy*—extra-peritoneal, and Schroeder's intra-peritoneal methods, as if they are still burning questions to settle, and is apparently oblivious of the fact that surgery has long since weighed both in the balance, and found them wanting.

Dr. Berry Hart follows with a section on the Anatomy of the Pelvis. In this he draws largely from his already published works. His description cannot lay any claim to be comprehensive, and fails to add anything as regards precision of description to the arterial and nervous supply of the uterus already obtainable in standard text-books.

Malformations of the Genital Organs, by Dr. William Ballantyne, is an excellent section, and adds greatly to the value of the work, while the section dealing with the

“Etiology of the Diseases of the Female Genital Organs,” by Dr. Balls-Headley, could well have been dispensed with.

We next have to deal with Dr. Boxall’s article on “Diagnosis in Gynaecology.” This appears to us to exemplify the gravest defects in the work. It is prolix without being in any sense of the word complete. Even were it complete it would be unnecessary, as diagnosis is in this work—and in all others, so far as we know—discussed under the head of particular diseases.

Dr. Boxall has been, we think, assigned an impossible task—namely, to make useful generalisations as regards diagnosis. His success to accomplish this has been indifferent, and the nineteen pages devoted to History and Symptomatic Indications of Disease are amongst the most impracticable that it has ever been our lot to encounter.

The inequalities of the work become very apparent when we pass from the foregoing section to that which deals with Inflammations of the Uterus, Cervix, and Endometrium, written by Dr. A. H. Freeland Barbour. Clearness, conciseness and accuracy are the characteristics of this chapter.

A short, temperate, and suggestive article follows from the pen of Dr. Playfair, on the “Nervous System in connection with Gynaecology.” It should be generally read in these days of the higher education of women.

Dr. Henry Gervis contributes an article on Sterility, and the subject is dealt with in a thoroughly complete style.

Dr. Arnaud Rouble deals with Therapeutics as applied to Gynaecology. Needless to say there is nothing new to add of practical value, and the substitution of the word “antiseptic” when “aseptic” is indicated gives a curiously out-of-date tone to the article.

“The Electrical Treatment of Diseases of Women” is dealt with by Dr. Milne Murray. The author is completely at home with his subject, and deals with the minute details of manipulation in a manner that leaves nothing to be desired. The article will be read, we believe, widely by gynaecological specialists.

Dr. Halliday Croom has allotted to him three symptoms, namely—Amenorrhœa, Dysmenorrhœa, and Menorrhagia, and we can only say such a section is quite unworthy of his

genius. There is no more retrograde step in medicine than to exalt a mere symptom into a disease and to deal with it apart from the disease to which it belongs. Dr. Croom not alone has to do this, but in doing it has to go over the ground traversed by several other writers in the book.

To Dr. W. J. Smyly has been allotted the subject of diseases of the external genital organs. The section is written in a clear, readable style, and deals with Vulvitis, Vaginitis, Pruritus, &c. In fact, it may be said that we are afforded the most modern information concerning the commoner diseases, while the rarer forms also receive due note.

We cannot at the same time comprehend why such a section fell to Dr. Smyly's lot. Surely some younger man, who has ample opportunities of observing these diseases in out-patient departments, could have been entrusted with the description of them, while more profitable work might easily have been found for the late Master of the Rotunda Hospital.

This work is, as a matter of fact, singularly incomplete as regards operative gynaecology, more especially in those great modern operations which are day by day becoming better understood and more constantly practised. Dr. Smyly, if we remember aright, has been the pioneer in Great Britain and Ireland of such operations as pan-hysterectomy, hysterectomy by morcellation, colpotomy, vaginal fixation of uterus, and symphyseotomy. He has certainly had enormous experience in these and many others, and we can only regret that he had not an opportunity of describing them.

Dr. Alexander Simpson writes on Displacements of the Uterus. The subject, needless to say, does not lend itself to much original construction, but the author has not omitted much, and the article is an exceedingly full one.

Dr. Herman has the task of describing Lacerations, Fistulæ, and Morbid Involution. Both this and the preceding section are robbed of interest by the absence of any detailed account of treatment.

Dr. Bland Sutton adds practically nothing in the next section, dealing with Extra-Uterine Foetation, to his account of that abnormality published in his valuable work on "Diseases of the Ovaries and Tubes."

Dr. Cullingworth's article on Pelvic Inflammation is very full and complete, and much enriches the book as a work of reference. It is, however, curious to note the strange prejudice entertained by him for Schultz's method for replacing a fixed uterus. We feel sure that a fair trial of this operation would quickly make him alter his opinion as to its danger and worthlessness.

Sir William Priestley has been unfortunate in having to write an article on a fragmentary part of tubal pregnancy, namely—Pelvic Hæmatocoele. He has, however, admirably succeeded in his task.

Dr. Haultain contributes a carefully-written article on Uterine Myomata. His treatment, however, for these tumours is marvellously conservative, and by no means to be recommended in practice.

Dr. Knowsley Thornton describes carefully some of the operations for uterine extirpation. The section is an extremely valuable one, and the experience of so eminent an operator cannot but be read with much profit. It does not, however, aim at being complete, and some of the most valuable methods for performing hysterectomy are entirely omitted.

A long and excellent account of the present teaching in connection with malignant diseases of the uterus has been written by Dr. W. J. Sinclair. It brings our knowledge of the subject well up to date.

Dr. J. Phillips deals with Plastic Surgery, and it is much to be regretted that these operations were not described in connection with the special diseases intended to be remedied by them.

An article on Diseases of the Fallopian Tubes, by Dr. Alban Doran, merits the closest attention.

A fragmentary subject—namely, Diseases of the Ovaries—has been allotted to Dr. W. S. A. Griffiths. He has, however, managed to say a great deal about them, and this section ranks well amongst the good ones of the book.

Those who have had the privilege of reading Dr. Greig Smith's masterly work on "Abdominal Surgery" will find that the author has added nothing of note to his description of ovariotomy in that book.

Dr. Malins deals with Inversion of the Uterus, and says all that can be said on the subject.

The work before us is brought to a close by an able article contributed by Mr. Henry Morris, on Diseases of the Female Bladder and Urethra.

Further comment on this book is superfluous. It must always remain a valuable work of reference, but according to our notion it is an indifferent gynaecology.

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*Practical and Operative Gynaecology.* By J. CLARENCE WEBSTER, F.R.C.P. Ed. Edinburgh: Young J. Pentland. Volume VIJI. Pp. 288.

THIS small gynaecological work is eminently one of an examination series, and if the book has been written for this purpose the author is entirely to be congratulated. It contains, in no ordinary degree, information bearing on what might be considered practical questions in an examination.

Thus, Part I. deals with case-taking, physical examination, the use of sound dilators, curette, and aspirator, &c. The information afforded under these heads is accurate and wonderfully concise.

Part II. embraces minor therapeutic measures, under which are described the vaginal douche and its indications, the plug baths, massage, thermo-cautery, and pessaries, &c. Sound information is afforded as to how and when the latter are to be employed. Displacements of the uterus are briefly described.

Sterilisation of instruments, ligature, &c., occupies a comparatively large space in the section, which concludes by a short account of the different actions of chloroform as compared to ether.

Those who are too busy to afford the time required for mastering the contents of a larger gynaecology, and who have not been able to obtain recent hospital experience, will find much valuable instruction in these few pages, as they deal for the most part with subjects on which the views of the profession have undergone a complete change within the past fifteen years.

Part III. brings us on to the larger operations performed

by abdominal section or through the vagina. Here, again, these subjects are dealt with in a manner sufficiently full and accurate to meet the requirements of, we should think, any pass examination in the United Kingdom.

This book is ahead of the numerous other small works on gynaecology which have been published in Edinburgh for a considerable time.

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*A Pictorial Atlas of Skin Diseases and Syphilitic Affections.*  
Edited and Annotated by J. J. PRINGLE, M.B., F.R.C.P.  
Part VII. London : The Rebman Publishing Co. 1897.

PLATES XXV. to XXVIII., inclusive, are contained in this fasciculus of the Saint Louis Hospital Atlas of Skin Diseases. Plate XXV. shows a remarkable eruption from bromide of potassium which had been taken by a *syphilophobe* under the care of Mons. L. Brocq, acting for Mons. E. Besnier. The case is well described by Mons. Lucien Jacquet, who also supplies the letterpress explanatory of Plate XXVI., showing hypertrophic papular syphilides.

The third illustration is of rupioid and early gangrenous syphilides in a horse-dealer, aged twenty-seven, under the care of Mons. Hallopeau. Plate XXVIII. also contains two striking photo-lithochromes of gangrenous syphilides, which Bazin grouped among his class of *early malignant syphilides*. Two cases are portrayed—the first is an example of tuberculo-gangrenous syphilides, the second is a gangrenous gumma. In the letterpress, translated from the French of Henri Feulard, we meet the new word “biopsy.”

As in former Parts of this work, the illustrations are photographs of models by Mons. Baretta.

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*A Short History of Aryan Medical Science.* By H. H. SIR BHAGVAT SINH JEE, K.C.I.E., M.D., D.C.L., LL.D., F.R.C.P.E.; Thakore Saheb of Gondal. With ten Plates. London : Macmillan & Co., Ltd. 1896. Pp. 280.

THE appearance of a royal or noble or quasi-noble name upon a title-page is apt to remind a profane reviewer of Johnson's comparison of such productions to the perform-

ances of a dancing dog—"The wonder, Sir, is, not that he dances so badly, but that he dances at all." In the case before us we may say at once that if the thing was to be done at all the Thakore Saheb of Gondal has done it well. The folk-lorist will rejoice to read. Those strangely constituted minds to which Lear's Book of Nonsense affords delight will find "fresh woods and pastures new" in many of these pages. To call the beliefs and practices here detailed "medical science" is an abuse of language; and to search for anticipations of modern medical discoveries amongst these old wives' fables is labour lost. To those who know how great has been the progress of western medicine in India it is simply amazing to find that so much has been done in a country whose infallible guides teach, for instance, that important functions can be efficiently performed only while respiration is carried on through the right nostril. That Hindus brought up in such beliefs should be trained to become most valuable assistants, and most skilful and successful practitioners of surgery and medicine, speaks well for the industry and ability of the teachers, and for the docility of the taught.

One branch of Hindu medicine there is which deserves study, and will, so far, at least, as India herself is concerned, repay it. The Hindu *Materia Medica* is copious, and much of it is valuable. It is not, of course, free from the puerilities and errors to which the subject is peculiarly liable. The *materia medica* of Europe in the Middle Ages, and later, was little better. But many drugs of the Indian repertory are capable of replacing the more costly and not more effective medicaments imported from Europe. More than one attempt has been made by the late Mr. Waring and others to popularise the knowledge and extend the use of native drugs, hitherto with little success. That India produces all the medicines which her physicians need we have little doubt. The apathy of Indian Governments, the pressure on the India Office of interested parties, and, perhaps, the reluctant conservatism of the medical officers have prevented a substitution of native for exotic drugs, which would be financially beneficial, and would have favoured the spread of European medicine.

The ninth chapter treats of the Qualities of a Physician, and his Prognosis according to Hindu Medical Science. There is some sound teaching in it. "He who is in a position to pay his doctor's fee, but does not, though under his medical treatment, is styled 'wicked,' and said to transfer all his 'merit' to the physician," is of universal application, though it is difficult to believe that such a person can have any "merit" to transfer. On the other hand, "to treat a patient conscientiously is supposed to bring 'merit' to the physician, who should not therefore sell his 'virtue' by treating a poor patient for the love of lucre." Here the Hindu physician and the European are on common ground. In prognosis, we fear, Hindu medical science helps us not.

Of Indian surgery little is said. In its palmy period—for in later times it fell upon evil days—operative surgery was systematically taught. "The preceptors made their pupils practise different operations on various substances." The details of these are amusing reading, winding up with "catheterisation on an unbaked earthen vessel filled with water." We are reminded of the American obstetric teacher who, warning his class against the folly of trying to learn midwifery on the "phantom," said, "You may as well practise passing the catheter on the village pump."

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*Archives of Clinical Skiagraphy.* Edited by SYDNEY ROWLAND, B.A. Camb. London: The Rebman Publishing Co. 1896. Vol. I. No. 3. December, 1896.

THIS Part of the Archives contains six plates, numbered XIII. to XVIII. inclusive. The subjects are full of interest. Plate XIII. shows two "skiagrams" of fracture of the olecranon treated by suturing with wire. The case is reported by Mr. Albert E. Morison, Hon. Visiting Medical Officer to the Hartlepools Hospital, in whose practice it occurred. Plate XIV. gives a skiagram of fracture of the lower end of the humerus, with separation of the external condyle. It is by Mr. Hugh M'Lean, F.R.C.S. Edin. In a second figure, Dr. John Macintyre, of Glasgow, presents a skiagram of hip-joint disease. Plate XV. shows six toes on each foot of

a lady aged 20. Plate XVI. consists of a skiagram of a double monster taken by Mr. J. Lynn Thomas, Assistant-Surgeon to the Cardiff Infirmary. The specimen belongs to his colleague, Professor Hughes, of University College, Cardiff.

In Plate XVII., ununited fracture of both bones of the forearm, before and after union by wiring, is illustrated. The case was in the practice of Mr. Bland Sutton, and the skiagrams were taken by Mr. Sydney Rowland.

The last Plate (XVIII.) in the present Part of the Archives shows the skiagraphy of the soft and the hard tissues. It is by Dr. John Macintyre.

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*A Manual of Clinical Diagnosis by means of Microscopic and Chemical Methods, for Students, Hospital Physicians, and Practitioners.* By CHARLES E. SIMON, M.D. London : Henry Kimpton. 1896. Pp. 504.

THIS work, dedicated by the author to his wife, and to Professor Rudolph von Jaksch, reminds one not a little of the well-known work on Clinical Diagnosis of the great Austrian teacher. It quotes his opinions and borrows his illustrations freely, and no doubt owes a good deal to the impulse his work has given to microscopico-chemical diagnosis. But such indebtedness is inevitable, because of the identity of the subject and the large survey of the subject contained in von Jaksch's volume. In justice to Dr. Simon, it has to be said that his work is in some measure an improvement on von Jaksch's. If it is less full it is also clearer; if often less attentive to details, it is, as a rule, more philosophically arranged; it is more explanatory, more methodical—in fine, better proportioned. Dr. Simon approaches almost all parts of his subject from the normal, or as he calls it, the "physiologic" standpoint, and from it standardises the abnormal or "pathologic" departures. In theory this is an admirable method; it has been admirably worked out. Take, for instance, the chapter on diseases of the stomach. A brief examination of the evidence as to the main functions of the stomach, the purpose of the hydrochloric acid, the origin of lactic acid, the nature and function of the ferments, leads up

to an orderly exposition of the modern methods of research as applied to the quantitative as well as qualitative examination of every normal or abnormal element of importance found in the stomach. Several test meals are detailed, with the special value of each. The tests for hydrochloric acid are described in the order in which most can be learned, with least waste of energy ; and similarly with the other procedures. In this connection the author lays stress upon the fact that excess of lactic acid, after a suitable test meal, is more suggestive of gastric carcinoma than the oft-quoted deficiency in hydrochloric acid. The section on the stomach ends with a valuable differential table of the physical signs of the more important diseases of that organ.

Several similar tables appear in other sections of the book, all of them of distinct merit and usefulness. The chapters on the blood and the urine are well done, and are illustrated by several excellent engravings and coloured plates, many of them original. On the whole, Dr. Simon's book can be safely recommended as that of an experienced worker who has also the gift of teaching. It is simple, orderly, well-reasoned, and full ; and is very far from being a compilation from other men's works. We are almost inclined to put it forward as the best book of its kind at present in the hands of the English-speaking profession.

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*A Text-Book for Training Schools for Nurses, including Physiology and Hygiene, and the Principles and Practice of Nursing.* By P. M. WISE, M.D. ; Medical Superintendent, St. Laurance State Hospital ; Professor of Psychiatry, University of Vermont, &c. In two Volumes. Pp. 247 and 327. New York: G. P. Putnam's Sons. 1896.

IT would appear to be a very difficult thing to write a book for the instruction of nurses. On the one hand there is the Scylla of instructing them to such a degree that they become blind to the extent of their ignorance, and begin to think that they are fully qualified to treat cases of disease themselves ; on the other is the Charybdis of giving so little information as to render the book almost useless. We think that Dr. Wise has succeeded in steering a wise

course between these difficulties, and has produced a book which contains a vast deal of information, and at the same time makes it plain that the nurse's true function is to carry out intelligently the directions given her by the physician or surgeon.

The book begins with chapters on anatomy and physiology. These are very suitably, we think, mixed up together, so that the structure and the functions of an organ are considered at one and the same time. Thus, foods and beverages, sleep and its disorders, air and ventilation, are treated of in this volume.

We next come to an account of micro-organisms. There is on page 172 a very rough woodcut of some kinds of bacteria, in which we notice that what is described as "spirillæ (*sic*) of malaria" should probably (we cannot speak with certainty as the print is so poor) be "spirilla of relapsing fever." Following this subject naturally come the chapters on disinfection and disinfectants; these are, on the whole, good.

The sick-room, its preparation, temperature chart and note-taking come next and complete Vol. I.

Volume II. treats of practical nursing. Poultices and other external applications, enemas, bandaging and splints are described clearly. Then anæsthetics are treated of. It is well for a nurse to know something of the mode of administering anæsthetics, but we sincerely hope she may not be so foolish as to put her knowledge to the test of practice.

The nature of most of the ordinary diseases is mentioned, and special chapters on the nursing of children and insane patients, and on gynæcological nursing are added.

An appendix concludes the book, containing a list of drugs with their uses and doses, a medical glossary, and a number of recipes for preparing different kinds of food suitable for invalids and the sick.

As we have already stated, we consider this a good, practical book for nurses. We regret that it is disfigured by a number of inaccuracies, which should have been corrected. Thus we read "The sebaceous glands on the face appear as small black points, which are commonly called

‘worms.’” On page 41 there is a woodcut stated to illustrate “Capillary blood-vessels, showing blood-discs.” The so-called “blood-discs” are the nuclei of the endothelial cells. When we read “A *thrombus* is the coagulation of the blood in a blood-vessel,” and “The fæces is the matter excreted by the intestines,” we think the ideas are correct, but the words leave a feeling of sorrow for English “as she is wrote in America.” We are also told that 300 cubic feet of oxygen are consumed daily. What chests those Americans must have! There are other similar blemishes which could easily have been corrected.

These matters, however, do not much diminish the value of the book. We must, in conclusion, quote some most excellent remarks on food:—“In acute sickness the diet is usually prescribed by the physician. Its preparation is usually left to the nurse, and upon its proper preparation, palatable qualities, and pleasing appearance, may depend the patient’s appetite. A particular care of the nurse should be that the suggestion of food should not be made to the patient—either by talking about it, or by allowing the smell from its preparation to reach the sick room until it is set before him ready to eat, upon attractive dishes and with clean linen.” We may add that Dr. Wise does not leave his nurse ignorant even of the art of probing a bedstead with a tooth-pick for bed-bugs.

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*The Climate of Bournemouth in relation to Disease, especially Phthisis.* By A. KINSEY-MORGAN, M.D.; Hon. Medical Officer, Royal Victoria Hospital, &c. Bristol: John Wright. 1897. Pp. 51.

IN this little book the author shows that Bournemouth possesses many of the qualities desirable in a health-resort. The soil is dry—a most important point, seeing that Sir G. Buchanan, in one of his reports to the Privy Council, showed that the death-rate from consumption varied inversely with the dryness of the locality. Bournemouth is situated on clean silicious sand. The air is pure, and the climate is mild. He describes also the temperature, amount

of sunshine, prevailing winds, and other meteorological factors. We must, however, protest against the comparison with the Engadine Health Resorts, based on the number of *possible* hours of sunshine in January. There are many hours of possible sunshine in Dublin during January, but the actual hours of sunshine are sadly few.

Notes of a number of cases of phthisis, overwork, rickets, and other diseases are given, showing the benefit received from a change to Bournemouth.

An appendix contains an account of the Mont Dore cure, which consists of the use of certain saline sprays, douches, &c. The requisite apparatus is to be found working in Bournemouth.

#### JANUS.

WE have received the first number of this triglott periodical, published in Amsterdam. It is to appear every two months. Dr. H. F. A. Peijpers, informs us in his introductory address "to all interested in the progress of the history of medicine and medical geography"—for in these two directions the Janus faces are directed—that there was no journal in all the world devoted to these special subjects. Of the original papers five (and the introduction) are written in French, three in German, and two in English. One of the last is a report on Leprosy in Iceland, by Dr. Ehlen, who estimates the number of lepers in the island at 200. We welcome the *Archives Internationales pour l'Histoire de la Médecine et la Géographie Médicale*; and wish *Janus* a long life.

#### PREVENTION OF BLINDNESS.

STRENUOUS efforts are being made by the profession in the United States for the prevention of blindness arising from ophthalmia neonatorum. It is mainly attributed to the neglect of midwives and nurses; and the remedy lies in legislation making failure to notify the earliest appearance of the disease to a legally qualified medical practitioner penal. A committee of the American Medical Association reported progress as follows, in May last: Nine States had adopted the necessary legislation; which thus applies to a population of 18 millions; in five the bill has been referred to committees; in four it has passed one house, and been defeated in the other; in four it has been approved by the profession, but not brought before the legislature.

## PART III. MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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### ROYAL ACADEMY OF MEDICINE IN IRELAND.

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President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

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#### SECTION OF SURGERY.

President—WILLIAM THOMSON, F.R.C.S.I., President of the Royal College of Surgeons in Ireland.

Sectional Secretary—JOHN LENTAIGNE, F.R.C.S.I.

*Friday, November 13, 1896.*

The PRESIDENT in the Chair.

The PRESIDENT delivered an address entitled “Some Surprises and Mistakes.” [It will be found in Vol. CII., page 475.]

*Two Successful Cases of Tapping the Pericardium.*

MR. AUSTIN MELDON read the following paper on the above subject:—

In 1663 Riolanus first proposed paracentesis pericardii. One hundred years later Senac stated that the operation was possible, and still later Van Swieten suggested a method of performing it. In 1806 Corvisart stated that it was not justifiable. Laennec believed it was possible. It is, however, more than probable that until 1819 it was never attempted. In that year Romero, of Barcelona, operated with perfect success. He made his incision in the fifth intercostal space at the junction of the cartilage and rib, picked up and opened the pericardium. Jowett, of Nottingham, operated in 1827, and Schuh in 1839. Since that period the operation has been performed so many times, and with such eminent

success, that surgeons are now in a position to consider the circumstances and mode of operation which conduce most to its successful issue.

At present just one hundred cases have been recorded, and I believe that many more have occurred which have never been published. Out of all these cases, only once has the operation proved fatal. In this unsuccessful case the right ventricle was lacerated by the trocar. Some others have died soon after the operation, but these were cases that were moribund at the time it was undertaken. The remainder were, without exception, relieved and many of them cured. Under these circumstances it is clearly the duty of the surgeon, whenever death is imminent from cardiac pressure, to resort to tapping. Experience, too, has shown that the operation is not attended with great danger, and certainly in cases of effusion from rheumatic pericarditis there is every prospect of recovery. It is generally held that death caused by pressure of fluid in the pericardium is a rare occurrence, but the correctness of this view I am inclined to doubt. I have seen several cases within the last thirty years in which I am convinced that the fatal termination was due to this cause, and might have been averted by drawing off the fluid. On one occasion I was able to verify this opinion by a *post-mortem* examination. It is with the view of eliciting the opinion of the members of this Section that I have brought these cases forward.

The first case occurred some years ago. The patient was a woman, fifty-eight years of age, and was admitted into Jervis-street Hospital, with dyspnoea, under the care of the Senior Physician, Dr. Stephen Myles M'Sweeney. On examination she was found to be slightly cyanosed, respirations 24; she had a feeble pulse and heart-beat, with increased praecordial dulness. From this condition, and from the history of the case, it was evident that the patient was the subject of very gradually-developed "hydrops pericardii." For some time treatment seemed to be followed by improvement. Three weeks after admission, however, Dr. M'Sweeney became convinced that the effusion was increasing, and as death seemed imminent, he requested me to tap the pericardium. The instrument I selected in this pre-antiseptic period was a long hydrocele trocar, which was washed well in very hot water. An incision was made into the skin two inches from the sternum in the fifth intercostal space, and at the suggestion of the surgeon, M. H. Stapleton, in order to make it valve-like, I drew up the skin to the full extent possible before making it. The trocar and cannula were pushed one and a half inches backwards with a slight inclina-

tion upwards. On drawing out the trocar no fluid came, and as the point of the cannula did not move freely it was evident that the instrument had not entered the pericardium. Again inserting the trocar I pressed it in a quarter of an inch further, and on withdrawing it fluid of a dark colour followed. I was now able to push in the cannula to the full extent without feeling any obstruction. When 8 oz. had been withdrawn the fluid flowed very slowly, and the instrument was therefore taken out, and the wound covered with flexible collodium. As the patient appeared faint, a little brandy and ammonia was administered. An hour later all difficulty of breathing had disappeared, but although the patient expressed herself completely relieved, a very slight cyanotic condition remained. On the following morning this was gone, and her pulse was strong and regular. She left the hospital five weeks later in perfect health.

On the 5th of March, 1894, I was summoned to the bedside of a man, aged twenty-six. Ten days previously he complained of a severe pain in the right side, which was relieved by the application of mustard. Next day both knee-joints were inflamed, and this, together with the temperature and copious perspiration, marked its rheumatic nature. Under the use of salicylates the disease assumed a sub-acute form, and until the 3rd of March he seemed to be progressing favourably. On that date pericarditis was first diagnosed. On the 5th his condition was as follows: The breathing was extremely difficult, respirations 32, pulse 108 and feeble, the heart-beat could barely be felt, and praecordial dulness was greatly increased, and extending to the fifth right intercostal space. Cyanosis and epigastric distress to a considerable amount were also present. Believing that death was imminent if not relieved, I obtained the consent of his friends, and finding on my return with the necessary instruments that no relief had followed the active treatment I had ordered, I proceeded to operate. Selecting the fifth intercostal space, I carefully measured one inch from the left margin of the sternum. The spot thus determined I marked with ink, having previously adopted the usual antiseptic precautions. I next selected the smallest-sized needle and washed it and the aspirator by passing through some hot carbolic lotion. The vacuum was now created in the instrument, and a small incision made through the skin at the point marked. I next measured two inches from the point of the needle, and here fixing my finger I plunged the needle backwards with a slight inclination upwards until stopped by my finger. The cock of the aspirator being now turned, I was gratified to find serum appear in the glass. Almost

immediately the patient's breathing improved to such an extent that when  $5\frac{1}{2}$  oz. had been removed I thought it right to withdraw the needle. I remained in the house for several hours, and when leaving the pulse was 100, the temperature  $100^{\circ}$ , respirations 24. Cyanosis, dyspnoea, and epigastric distress had completely disappeared. The fluid, unlike that in my previous case, was a healthy serum.

The progress of this case was most satisfactory. Two days later the pains in the knees returned, but were readily relieved.

On the 31st of August, 1894, a case occurred in the practice of my friend, Dr. Joseph Redmond, in which  $22\frac{1}{2}$  ounces of dark-coloured fluid were removed, and seven days later  $27\frac{1}{2}$  ounces were also taken out. In this case, which recovered perfectly, a drainage tube was subsequently inserted. Dr. Patrick Hayes was the surgeon who operated.

The careful consideration of the statistics of paracentesis pericardii shows that the fifth left intercostal space, at a point one inch to the left of the sternum, is the most suitable place for puncture. The selection of the instrument would likewise seem of some importance. If too small a cannula be used it is apt to become plugged with flakes of lymph.

I show two instruments which have been made for me by Messrs. Smith and Sheppard. One is to be used with, and the other without, an aspirator. Both become arrested when two inches of the instrument have passed into tissues, and then any further depth is obtained by a screw motion. This latter is the suggestion of Dr. Woods. I believe that when there is any fluid in the pericardium it is quite safe to plunge the trocar in fully two inches.

I may conclude this paper by quoting Dr. Samuel West's conclusions to his able article in the Medico-Chirurgical Transactions, and which I believe should be adopted by the profession:—

“ 1. Paracentesis pericardii is not only justifiable, but an operation which may be safely undertaken with ordinary precautions. One case only is recorded in which the operation was fatal. With this exception all the patients were greatly relieved by the removal even of a small amount of fluid, and many recovered completely, who would probably have died if the operation had not been performed. 2. The most suitable place for puncture is, in ordinary cases, in the fifth left intercostal space, one inch from the edge of the sternum, but if the pleura be adherent the puncture may be made safely much further out, and even in the sixth space. 3. The instrument employed should be a trocar and cannula, with or

without aspiration. 4. The operation may be performed with advantage not only in the pericardial effusions of rheumatic or primary origin, but also in those which occur in the later stages of general dropsy, if it should appear that the fluid in the pericardium is adding to the difficulties under which the heart is placed. 5. Purulent pericarditis is best treated on general principles like an empyema.—(a.) The pericardial sac may in these cases be safely opened and drained. (b.) The treatment, moreover, appears to be the only one which offers the slightest hope of recovery. (c.) The results are likely to be more favourable than those of empyema, for the walls of the cavity are better able to contract rapidly and thus permit of complete obliteration.”

THE PRESIDENT said he would be glad to hear this important paper discussed. The principal questions for consideration were, as to the place where the puncture should be made, and as to the best way of dealing with the conditions that occurred when the disease became purulent.

MR. LENTAIGNE said that the principle of the procedure which Dr. Meldon recommended should be adopted much more often than had hitherto been the case. The operation was comparatively easy of performance, and the results were likely to be satisfactory. In two cases, not long ago, which came under his notice, the operation, which would very probably have given relief, was not permitted. One was that of a little boy in whom an examination unmistakably indicated an enormous effusion in the pericardium. His parents, with the sanction, he feared, of the gentleman who had charge of the case, refused to allow any operation to be performed. In the other case the gentleman in charge would not permit an operation, saying it would be absurd to attempt to do anything in the region of the heart. Both patients were consequently allowed to die from what he might call simple heart suffocation, resulting from extreme distension of the pericardium.

DR. FRAZER said he was reminded of a case which came under his notice many years ago. It was at first thought to be one of pleural effusion, but turned out to be pericardial. The patient died, and after death a measured gallon of fluid was drawn off. That case might have been beneficially treated by operation. He had, however, had fair success in treating pericardial effusion in rheumatic cases medically. In one of them the patient, a child, had three distinct attacks of rheumatic fever accompanied with effusion; and the child had recovered, and was in health at present. Two things excited doubt in his mind in connection with cases of

rheumatic fever, of which he had had three severe attacks himself. He did not know what would be the use of tapping in the case of a "pine-apple" heart surrounded with three inches of lymph. Again, there was a class of cases of rheumatic fever in which carditis occurred, followed by delirium, and in which the effusion was not at all in proportion to the severity of the cardiac symptoms.

SIR THORNLEY STOKER said the great crux was, not as to the propriety of opening or tapping the pericardium in cases of serous effusion, but as to how the case was to be dealt with when there was pus in the sac. He could not conceive that there should be any question as to the propriety of using an aspirator to remove serum in order to prevent death by what Mr. Lentaigne had so aptly called suffocation of the heart. But when there was pus other considerations arose. Not only had it to be evacuated, but means should be provided for the removal of pus that formed subsequently. When there was only serum, after it had been removed a reactionary condition was set up, and no further accumulation of serum occurred. But where there was pus, although the heart was relieved by the removal of it, a secretion of pus would continue where there were ulcerated or diseased surfaces; and the removal of it in the first instance was almost useless, unless means for subsequent drainage were provided. One anxious question was whether this should be effected by a series of independent operations, or by the introduction of a permanent drainage tube. He thought the introduction of a trocar and cannula to such a depth as two inches totally unnecessary, except in the case of a patient of exceptional obesity. The cases to be dealt with were to be regarded as of an average type in that respect; and the question was not how far the instrument used might be put in without scratching or injuring the heart, but what was the depth necessary in order to drain the pericardium.

PROF. BENNETT said he could only speak of a single case. Very early in his experience as an hospital surgeon he received a note one summer evening from a physician, long since dead, requesting him to tap the pericardium of a patient. The physician did not meet him to consider the conditions of the case—that being the practice in those days. At that time Troussseau, of Paris, had formulated an operation to be performed with a bistoury rather than a trocar and a cannula; and he (Prof. Bennett) would prefer the bistoury for an operation of the kind. He examined the man to the best of his lights at the time. He found him too ill to give any details of his previous life history; but he was unable to satisfy

himself that there was fluid in the pericardium. As the man was in great distress he opened first the basilic vein on one side, and then that on the other. After there had been a full flow of blood from the second opening the symptoms were relieved. The man fell asleep, and the cyanosis entirely disappeared. He (Prof. Bennett) was soundly abused at the time for not having followed the lead of the physician in the case. After three or four days the man had a second attack of the same kind. He (Prof. Bennett) was not in attendance at the time, and in two or three hours the man died. He (Prof. Bennett) made a *post-mortem* examination which disclosed an adherent pericardium and huge heart; and there was no doubt that if he had tapped him with a trocar and cannula he would have killed him on the spot.

MR. WHEELER said he had had experience in two cases. In one of them Dr. Gordon diagnosed fluid in the pericardium, and the late Dr. M'Donnell tapped with his (Mr. Wheeler's) assistance. He performed three separate tapping operations, fluid coming each time; and on the third tapping there was pus. The form of operation adopted was to dilate an opening with a forceps, pass in a cannula, and pass through it a very fine probe. The gentleman made a rapid recovery, was well in three months, and was perhaps alive now. The other case was one which was treated by the late Dr. Stoney, and subsequently by Dr. Hudson and Dr. William Moore; and he (Mr. Wheeler) tapped once with an aspirator. The gentleman got quite well.

DR. TOBIN said the difficulty as to depth might be met by using an aspirator and needle; and as soon as the needle was inside the skin the aspirator should be turned on. The moment the needle entered the pericardium the flow of fluid would show that it need be pressed no farther.

SIR WILLIAM STOKES said it had never fallen to his lot to perform this operation, but it struck him as somewhat remarkable that in the cases mentioned by Mr. Meldon a single tapping should have been sufficient. In many cases it was sufficient; but they knew that cases of serous effusion occurred in which frequent tapping was necessary.

MR. HEUSTON said he did not believe in tapping the pericardium in a blindfold manner. When they were sure that there was only serous effusion they would be justified in using the trocar or aspirator in such a way as Mr. Meldon had adopted with such excellent results. But there were other cases in which the only proper thing for the operator to do was to make a free opening down to the pericardium, so as to be able to see what he was doing. In sup-

purative pericarditis it was absolutely necessary to make an incision at an early stage.

MR. MYLES asked could Mr. Meldon give any authentic information as to the exact extent to which displacement of the heart took place in his case, or in cases of the kind. Students were taught that in cases of pericardial effusion the apex of the heart was displaced upwards. If the heart simply lay in its normal place it would lie at the bottom of the fluid, and a displacement would take place in the thorax at the expense of the lungs. Again, with reference to the position to be selected for the insertion of the instrument, he wanted to know what was to become of the left pleura? He believed that in the majority of cases the trocar, if inserted at the spot indicated by Mr. Meldon, would invariably go through the left pleura.

MR. M'ARDLE remarked that the only person who seemed to know anything about the subject was the gentleman who read the paper; and he had the fact of success to support his position. Although knowing nothing of the subject, he (Mr. M'Arkle) held that Mr. Meldon was justified in passing the trocar and cannula into the pericardium in the manner he had stated, for two reasons. First, because a safer exit for the contents of the pericardium was thereby obtained than by any other procedure. If the pleura was cut through in order to make a free opening before reaching the pericardium, the patient was exposed in a tenfold degree to the danger of an inflammatory attack. The question of depth was very easily determined. When the point of the instrument was found to be in connection with the fluid, there was no reason for going two inches into the thorax. He supported Mr. Meldon's position of tapping in preference to incision.

DR. TRAVERS SMITH asked did Mr. Meldon consider tapping for the second time more dangerous than the first tapping.

DR. TAYLOR said he recently saw a case in Sir Patrick Dun's Hospital which was under the care of Dr. Purser. It was that of a boy who had been four or five days there with symptoms of ordinary pericarditis. He was cyanosed, cold, covered with perspiration, and in a dying condition. He aspirated his pericardium by passing a needle into the fifth intercostal space close to the sternum, and fluid came out of a sero-fibrinous character, the fœtor of which was intolerable. Over a pint of fluid was drawn off, after which the boy seemed much better. He continued better for some hours, but the next morning suddenly got cyanosed and died. A *post-mortem* was made by Dr. Purser and Dr. Walter Smith, and on taking away the sternum and costal cartilages on each side they

found that the two pleural sacs had separated some distance from the middle line of the pericardium, and had come up behind the sternum and costal cartilages on both sides. So that neither of the pleural sacs would have been opened either by a needle or by any other instrument cutting down at the point selected. He agreed with Sir Thornley Stoker that there was no necessity for inserting any instrument so deep as two inches. In most cases one inch would be sufficient.

DR. JOHN W. MOORE remarked that in Murchison's text-book a distended pericardium was represented as displacing the liver downwards, so as to cause an apparent displacement of it, the tumour caused by the distending fluid pushing the left lung to the left, and the right lung to the right. That condition of things was sufficient to show that tapping might be performed with confidence within an inch of the sternum on the left side.

MR. MELDON, in reply, said the position of the patient was of great importance in determining the depth to which the instrument should be inserted. In the first case, while the patient was lying on his back, he only put in the trocar an inch and a half, and did not succeed in reaching the fluid. In that position, when the pericardium contracts as the fluid escapes, any lesser depth than two inches would result in the instrument parting company with it. Of course, he would not plunge a trocar in to that extent unless satisfied that there was effusion into the pericardium. In doubtful cases he would follow Mr. Tobin's suggestion. Selecting a No. 1 needle, and having created a vacuum in the aspirator, the instrument should be pushed in until the eye is covered and the stop-cock then turned on. The needle may now be pushed in to a reasonable distance in search of fluid. Even should the heart be touched by such a small instrument, it would not be so very serious as has been stated, especially as the left ventricle has been designedly punctured and the patient relieved by the operation. The direction, too, which he adopted in his cases is another point of safety. He was not aware of any case of rheumatic pericarditis in which a second tapping was required. The patient in the second case was kept in hospital for five weeks after the operation, because it was thought that all the fluid had not been drained off; but it never collected afterwards. Dr. Moore had answered Mr. Myles as regarded the anatomical conditions of the case. As to a second tapping being more dangerous than the first, he had never tapped a second time, so that he could not say whether it was or not. Statistics did not show it to be so. He had never, of course, attempted to tap unless he felt perfectly sure that there was fluid

in the pericardium. If he felt the smallest doubt that there was, he would not attempt to tap. In one of his cases the man's death was imminent from the pressure of the fluid, and he had not the smallest hesitation in going in the two inches. He would like, in reply to Dr. Smith, to say that there are two special points in reference to the signs of pericardial effusion to which he would draw attention. The first manifestation is increased broadening of the cardiac dulness at the lower portion—first to the left and then to the right, until there is absolute dulness in the fifth intercostal space in the region named by Ebstein—the cardiac hepatic angle. The second symptom to which he wished to refer is the occurrence of intermission of the pulse during inspiration at a time when the heart is beating without such intermission. Most of the other observations had reference to purulent pericarditis, which was not treated of in this paper, but he quite agreed with the opinions expressed that this condition is best treated by incision and drainage.

The Section then adjourned.

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*Friday, December 11, 1896.*

The PRESIDENT in the Chair.

*Acute Intestinal Obstruction.*

MR. M'ARDLE read a paper based on the results obtained in the treatment of 41 cases of acute intestinal obstruction by operation. The cases included instances of obstruction by bands, intussusception, volvulus, acute enteritis, perforative peritonitis, and appendicular disease. Seven cases succumbed, but in no case that was not beyond recall, before opening the abdomen, did death occur. Mr. M'Ardle pointed out that the delay occasioned by trying medicine and enemata often placed the patient beyond the reach of surgery. Prolonged medical treatment he held was not justifiable, because, as noted by Treves, of 1,000 deaths from intestinal obstruction only 60 were from causes removable by medical means. The odds are all in favour of the obstruction being of such nature that surgical interference can alone avail. Mr. M'Ardle therefore regretted that some modern writers advocated persistent efforts with enemata, even after dangerous symptoms had shown themselves. Mr. M'Ardle recorded at length cases of acute internal strangulation in which great change was brought about in the injured intestines by irrigation with boiled saline solution, at a temperature of 100° F.

Mr. M'Ardle did not advocate indiscriminate laparotomy, but after calling attention to many cases of acute intestinal obstruction, in his hospital and private practice, in which death occurred before he had an opportunity of operating on the cases, he held that with the present safe methods of dealing with abdominal wounds and the rapidity with which Paul's tube, Murphy's button, and such appliances enable us to deal with lesions of the bowel, the intestines should be exposed much earlier and with greater frequency. The points on which Mr. M'Ardle laid greatest stress were—1st. That all fluids should be removed from the pelvis and loins by irrigation with sterile water. 2nd. That the circulation in the intestines should be restored and peristalsis established by irrigating with boiled saline solution before returning them to the abdomen. 3rd. That a tube passed through the rectum should be guided by the hand within the abdomen until flushing of the colon could be thoroughly carried out; this as an aid to reducing the intra-abdominal tension and easy return of protruded bowel. The writer concluded by laying down this rule:—"When a surgeon is called to a case of complete obstruction of the bowel which has resisted judicious medical treatment, and in which evidence of peritoneal effusion exists, it is his duty to operate at once."

The PRESIDENT said he did not think there would be any difference of opinion about the importance of the paper which had been read. Mr. M'Ardle was certainly to be congratulated upon the cases he had brought forward and the surgery he had adopted, but he was sorry he had not dealt with the symptoms or methods by which he arrived at the conclusion that those particular cases were cases for operation, and not treatable by ordinary methods. Granting that acute intestinal obstruction was recognised, everybody was at one with him as to the propriety of operating as quickly as possible. As to what might be called ordinary chronic constipation, if they were quite sure that it was that only with which they had to deal, the idea of opening the abdomen should not be entertained except in very extreme cases.

DR. MYLES thought that anyone who had expressed opinions there had no right to resent their being criticised. Speaking with the greatest deference, he thought the principle most persons would deduce from the paper referred to was that prolonged and patient trial with the long tube, used as a siphon, should be made before any resort to operative interference. The point which he would most gladly see emphasised in Mr. M'Ardle's paper was the extraordinary difficulty of accurate abdominal diagnosis. It was very easy to describe a case *post mortem*; but it was far otherwise

when the patient was lying before them collapsed, and the only available history was what was afforded by friends or relatives, or an imperfectly informed practitioner. As to Mr. M'Ardle's suggestion of making a second incision if necessary, and putting the hand into the abdomen, he (Dr. Myles) had frequently done that. Most of his operations for obstruction of the bowel had ended fatally, but perhaps most of the cases that he saw were too far advanced for operative interference to be useful. It should be observed, however, that operations in the country were generally conducted under the most disadvantageous circumstances, for, generally speaking, appliances and skilled assistants were wanting, and very often the condition of the patient was too far advanced for the operation to prove successful ; besides, country practitioners, not having the necessary appliances, hesitated themselves to open the abdomen in time.

MR. TOBIN said he had often met with cases of obstruction ; and he wished he had had behind him such a definite pronouncement as Mr. M'Ardle had made. Mr. M'Ardle had laid down that where there was obstruction, accompanied with distension of the abdomen and raised temperature, they should look for the cause of it by opening the abdomen. His statistics showed that the cases of obstruction caused by mere faecal accumulation were few ; but even these were often to be accounted for by some structure. If they applied to all cases of obstruction the rule that they applied in strangulated hernia they would do well. Who now hesitated to do taxis for the cure of strangulated hernia before any serious disturbance had taken place. An early operation in a great many cases of intestinal obstruction would effect a radical cure. The persons who were most afraid of laparotomy were those who began it too late. If it were commenced before peritonitis set in the operator was encouraged. He believed it would soon become the practice to operate at once in all cases where there was complete intestinal obstruction ; for even if it should lead to the discovery of an incurable cancerous mass, an artificial anus could be made, and thus the patient would be the better of the operation.

MR. CROLY said that if Mr. M'Ardle's paper had been nothing more than a record of cases, it would have done great good by drawing more marked attention to the subject of acute intestinal obstruction. He (Mr. Croly) had never been more impressed by the similarity which existed between acute strangulated hernia and acute internal strangulation than he was on hearing Mr. M'Ardle's paper ; and he concurred entirely with him as to the expediency, in such cases, of early laparotomy. The whole

question turned on diagnosis. For his part, he would open the abdomen as a means of diagnosis—in order to see what was there. That was much better in a case of acute internal strangulation than stupes, or leeches, or tubes, or turning the patient upside down and shaking him. He cast no slur on the physicians, but he concurred in the statement that they sometimes took charge of acute intestinal obstruction cases too long. So far as his (Mr. Croly's) experience led him, he was entirely an advocate for early laparotomy as a means of diagnosis in cases of acute intestinal obstruction.

MR. ALFRED SMITH said he assisted Mr. M'Ardle in operating on a case sent from Skerries, in which the patient was so bad that it was not necessary to administer ether before the operation; and he was greatly impressed by the remarkable change that was produced in the intestines by the use of the hot saline solution. It was exactly like the recovery from a cyanosed condition of a patient who had been given too much ether, after the ether bag had been withdrawn from his face. Mr. M'Ardle's experience bore out that of everyone who had anything to do with abdominal surgery, as to the great advantage of saline solutions. In all these cases of intestinal obstruction the possibility of tubal pregnancy should not be overlooked.

MR. HEUSTON said there was one point on which he (Mr. Heuston) did not agree with Mr. M'Ardle. The latter seemed to think that there was no such thing as secondary shock. He (Mr. Heuston) believed that after the operation a condition of things sometimes ensued which was a secondary shock, and of which the patient sometimes died. This might or might not result from the giving way of imperfect suturing; but he believed suturing could always be done in such a manner that there would be no fear of its giving way.

MR. BENNETT said what he would particularly emphasise was Mr. M'Ardle's practice of making a secondary opening. He (Mr. Bennett) had seen a good many laparotomy operations, but he was not acquainted with the practice in question until he saw it done by Mr. M'Ardle, and he was then struck with the great facility which it gave for reaching any fixed and unmanageable structure that might exist in the lower part of the colon, close to the sigmoid flexure, and which could not be brought to the mesian incision; and the facility it gave for evacuating or exposing the intestine.

MR. LENTAIGNE said he had himself done that very operation

of secondary incision precisely as Mr. M'Ardle recommended, and for the very same thing. Mr. M'Ardle had mentioned that in two of his cases the patients had free motions of the bowels before death. That was not like acute intestinal obstruction. He said he performed circumcision in other cases; but it appeared to him (Mr. Lentaigne) that that only added an unnecessary shock, where the desired result might be obtained by dilating the prepuce. However, all surgeons were agreed that in acute cases an early operation was necessary, and that delay was criminal. Mr. M'Ardle had not, however, shown where the line was to be drawn between cases which called for an operation and cases that did not. When volvulus or strangulation by a band could be diagnosed, neither physician nor surgeon would hesitate about an operation. As to the technique of the operation, there was no difference between Mr. M'Ardle's methods and those which he (Dr. Lentaigne) had seen elsewhere, which included washing out with hot saline solutions, reviving collapse, and stimulating peristalsis.

DR. BOYD said there were very few physicians coming across acute intestinal obstruction who would be so blind as not to recognise the necessity for operative interference; and all surgeons were agreed that it should be done early. But the rule was to be taken with some restrictions—mere lodgments or accumulations should not be confounded with obstruction.

THE PRESIDENT said one or two of the speakers seemed to think that he objected to the views of previous essayists being criticised there. On the contrary he had done it himself, and he hoped to do so again.

MR. M'ARDLE, in reply, said there was no man in the profession for whom he had a greater respect than the writer of the paper to which he referred, or in whose surgical acumen he had greater faith. A definite statement had been asked for as to what cases should be operated on. In most of the cases in which he had operated he did not know what he would find on opening the abdomen; but he did know that the peritoneal cavity contained fluid, that the bowels did not act, that the patient was in a state of collapse, or impending collapse, and that physic could do no good. He did not claim any originality as regarded the practice of secondary section of the abdomen; what he did in that particular case was on the spur of the moment, feeling himself otherwise cornered. Everyone knew that the danger of laparotomy was not great; the danger of not performing it was much greater. It had been said there was no use in operating when a patient was in a state of collapse, but he maintained that it was not too late until after the patient was dead. It was

never too late until the patient was almost cold. Dr. Heuston struck the nail on the head when he said that the paper had been misunderstood ; and it was with a view of placing it in a proper light that he had referred to it. It was of great value, because it taught two things to practitioners in the country—namely, first, the danger of O'Beirne's long tube ; and secondly, the value of siphon distension of the bowel rather than distension by manual pressure. In the one case the pressure employed could be regulated ; in the other they did not know what force they were using. As to "secondary shock" he did not know what was meant by the phrase. They could understand attributing death to a thrombus, or a clot in the heart, or to any other specific cause ; but "secondary shock" meant nothing. The statistics he had given as to the comparative number of cases of obstruction and of faecal accumulation showed what scope there was for surgical interference.

The Section then adjourned.

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## SECTION OF OBSTETRICS.

President—LOMBE ATTHILL, M.D.

Sectional Secretary—F. W. KIDD, M.D.

*Friday, November 27, 1896.*

DR. HORNE in the Chair.

### *Exhibits.*

DR. ALFRED SMITH exhibited a pair of suppurating ovarian dermoid cysts. He removed them from a woman, aged thirty. The leading symptoms from which she sought relief were a very heavy menstrual flow, lasting for ten days ; dysmenorrhœa and dyspareunia ; temperature was 100° at night and 99.6° in the morning. He put her under ether, and was at once able to map out two tumours apparently the right and left ovaries, about the size of goose eggs. He found extensive adhesions between the omentum and the tumours, and between the tumours and the rectum. On his separating the one to the right it burst, and the smell from it was very foetid. The pelvis was washed out with a saline solution and a drainage tube put in. He was happy to say that it proved one of the most aseptic operations he had ever performed. At no time did the temperature rise to 100°.

DR. F. W. KIDD exhibited an uterus which he had removed by

vaginal hysterectomy for cancer. The patient was thirty-five years of age. The only question was, whether or not there was a fair prospect of removing all the diseased tissue. She was placed under an anæsthetic, and after the pelvis had been examined he concluded that all the diseased portions of the organ could be removed. About the junction of the bladder with the urethra was a small nodule; and there was some difference of opinion as to its nature. The anterior wall of the vagina was easily drawn down, and the nodule, which proved to be a small cyst, was excised. The first intention was to ligature the uterine arteries and apply clamps higher up; yet when the tenaculum forceps was applied the tissue proved to be utterly rotten and broke away, consequently the procedure was reversed. The uterine arteries were clamped, and the lower portion of the uterus separated with a scissors. There was great difficulty in getting the fundus down, for its walls were extremely thick. It was finally inverted through the anterior incision in the vagina by means of vulsellum forceps, and the upper portion of broad ligaments was ligatured along with the vessels; both ovaries and tubes were also removed. The case made remarkably good progress, but four or five days after the operation her temperature varied between 100° and 102°, and it was found that there was a foetid discharge which arose from a portion of iodoform gauze which had been overlooked in the dressing. He neglected to make a note of the number of strips of gauze he had put on round the handles of the clamps; and in consequence of this, when they came to be removed, one was left in the vagina, and the result was extensive suppuration. A week after the operation, however, she was able to walk downstairs. He believed that all the diseased structure had been removed; and at the end of a fortnight she left the hospital perfectly well. The lesson to be learned from the accident in this case was that the number of dressings in an operation should always be counted and noted by the operator.

DR. ALFRED SMITH said he saw the operation, and every time that the cervix was gripped with the instrument a piece came away.

DR. WILSON said an accident similar to that mentioned by Dr. Kidd happened to him in an operation for the removal of an uterus which he performed with the assistance of Dr. Smyly. A clamp and gauze were applied to the ovarian artery on the left side; and in order to prevent the clamp from irritating the peritoneum, a second piece of gauze was put in. He removed the first gauze, but could not get the clamp away. Afterwards he succeeded in removing the clamp but the second gauze remained; and after the

tenth day the temperature began to rise, and on examination the second gauze was detected and removed. The woman was doing very well at present.

DR. JELLETT exhibited, for Dr. Smyly, two recent specimens. The first specimen consisted of a tumour of the left ovary the size of a large orange, and intimately connected with a large hydro-salpinx. The ovary and tube on the opposite side, which were enlarged owing to inflammation, were also shown. There was no difficulty in removing the large ovary and tube, but considerable trouble was experienced with the smaller one. They were sessile and closely adherent to the pelvic peritoneum. There were very dense adhesions above, between the intestines and the tube, which could not be broken down. In order to permit of their removal the peritoneum was divided horizontally along the anterior aspect of the broad ligament, and reflected upwards and downwards, the adhesions between the intestines and the peritoneum remaining intact. The tube was then shelled out, and bleeding vessels ligatured. The patient made an uninterrupted recovery.

The second specimen consisted of two enlarged and dilated tubes. The removal was exceedingly difficult. In consequence of oozing a drain of iodoform gauze was inserted into the pelvis and the abdominal wound sewn up. The patient was dressed on the second day in order to remove the drain, but it was found that it had slipped back into the abdominal cavity. The abdomen was in consequence opened, the gauze found after some difficulty, and the wound again closed. The patient went on well, with the exception of a slight attack of bronchitis, which caused considerable coughing. The sutures were removed from the abdominal wound on the eighth day, and the wound appeared healthy and perfectly united. The next day it was found that the wound had burst, and that the intestines were lying on the abdominal wall. She was again anaesthetised, the intestines and peritoneal cavity well washed with boric lotion, and the wound revivified and resutured. She made an uninterrupted recovery, and the wound is now well healed.

#### *A Case of Rigid Os. Discussion by Dührssen's Method.*

DR. E. WINIFRED DICKSON read a paper on the above subject, of which the following is an abstract:—

The term "rigid os" may fairly be applied to the following case, for the pains during the whole labour were strong and frequent, so as to drive the head through the brim of the pelvis till it almost rested on the perineum, and yet at the end of 96 hours the os only admitted three fingers, and the edges were hard and un-

yielding. The details are as follows :—Early on the 20th August, 1896, a local practitioner sent to the Coombe Lying-in Hospital for help, as he had a patient who had been in labour for 56 hours, and she was making no progress. I found a healthy primipara, aged twenty-four, having strong pains and straining violently. Temperature was 98.4°, pulse 90; child was in first vertex position; head fixed; foetal heart good. There was plenty of liquor amnii, though membranes were said to have ruptured. The lower zone of the uterus was thinned out and tightly stretched over the head; cervical canal still unopened, barely admitting one finger. Morphia was administered hypodermically—at first  $\frac{1}{4}$  gr., later on  $\frac{1}{2}$  gr., and 12 hours later the cervical canal was obliterated, and the external os admitted two fingers. The head was still lower in the pelvis, and the liquor amnii had drained away. Chloral was then given, 15 grains every 15 minutes till 60 grains had been given, and later on a hot bath, hot douches and an enema. Twelve hours afterwards there was very little progress, and I advised operation on account of the risk of rupture of the thinned out lower zone of the uterus. With a view to this she was removed to the Coombe Hospital, when Dr. Kidd examined her. He advised trial of manual dilatation, and this was accordingly carried out. Another hot bath was also given, and repeated hot douches. Five hours later there was no progress; os only admitted three fingers; head and encircling cervix almost rested on the perinæum. The patient was then at the end of the 4th day in labour, her temperature rose to 99.2° F., and the foetal heart became very rapid. Operation was decided on. The patient was anæsthetised with chloroform, placed in the dorsal position, and disinfected. A duckbill speculum was inserted, and under the guidance partly of the eye and partly of the finger four incisions were made with blunt-pointed scissors, in cruciate fashion, each about  $1\frac{1}{2}$  to 2 inches long, dividing the cervix up to the vaginal junction. The tissues cut with a harsh grating sound. There was no bleeding. Forceps were then applied, and a female child easily delivered, but in a condition of white asphyxia. It was soon resuscitated, and weighed  $6\frac{3}{4}$  lbs. Even after delivery there was scarcely any bleeding from the cut cervix. The uterus contracted well. After delivery of the placenta the incisions in the cervix were united with silver wire, nine sutures in all being inserted. The right lateral cut had torn slightly, the others had not torn at all beyond the original incisions. The perinæum required one stitch. The uterus and vagina were then douched with creolin solution, and an antiseptic pad applied to the vulva. Frequent vaginal douches were used during the puerperium, and

the patient made a perfectly aseptic recovery. The perineal stitch was removed on the 5th day and the cervical stitches on the 10th day, and union was perfect in all.

DR. KIDD said all the ordinary routine treatment short of surgical interference had been, in the first instance, exhausted, and then he was glad to allow Dr. Dickson to carry out the operation in question. From its results he should have great confidence in resorting to the same procedure in similar cases in future. Two or three years ago he read a paper before the Section giving a case of prolapsus of the cervix during labour, in which, owing to the rigidity of the cervix, it was carried down before the advancing head; and had he adopted the method now recommended of enlarging the outlet of the cervical zone, the case would not have ended in the tedious labour that occurred. He believed that when due precautions were taken to guard against any possibility of septic absorption the operation in question was comparatively free from risk.

DR. WILSON said he performed this operation about a year ago in a case of rigid os. The special object in the case was to effect a rapid delivery. The os was very small, and the cervix was slit up with four incisions and delivery effected, but the child was dead, and had been, before the operation. The cervix was stitched with gut, and the woman was still alive. The ease and simplicity of the operation in question were in its favour, but he thought it should be confined to urgent cases, or cases of cancerous affection. To suture the cervix was the correct mode of proceeding, if only for aseptic reasons.

DR. JELLETT held that in cases where there were the proper indications for this operation it should be resorted to without previous manual dilatation, which was attended with risk.

DR. KNOTT asked Dr. Dickson did she think mental causes had anything to do with the rigidity of the os in the case she had detailed.

DR. DOYLE thought the term "discission" was one that needed explanation.

THE CHAIRMAN said that from time to time he had come across cases of so-called rigid os, and he did not know of any more troublesome cases. They generally occurred in primiparæ, which was hard to explain, unless it arose from some cicatricial tissue infiltrating the cervix. But he had never seen a case of rigid os that did not yield to time, patience, sedatives, and hot baths. In the Rotunda Hospital the late Dr. G. Johnston advocated an early application of the forceps before the os was fully dilated, the process

being to put the patient under an anaesthetic, apply the forceps, and leave them in without making traction. They then acted as a dilator of the best form for a condition of rigidity of the os; and when the os began to yield, a gentle traction of the instrument invariably made it slip over the child's head without inflicting a wound on the cervix. He could understand, however, the applicability of Dührssen's method to cases where the necessity for immediate delivery was urgent, or to cases of cancer with infiltration of the tissue, or cases where there was cicatricial tissue of the cervix arising from previous wounds.

DR. DICKSON, in reply, said she had no facts as to the mental history of her patient. Barnes's bags had been mentioned by one speaker, but she had never seen them used.

### *Three Cases of Ectopic Gestation.*

DR. KIDD read a paper detailing three cases of Ectopic Gestation. [It will be found at p. 193.]

As there were two other papers on the same subject, the discussion was deferred until after the reading, at the next meeting of the Section, of these two papers.

The Section then adjourned.

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### HEREDITARY CRIME.

THE following, taken from the *Medical Press*, compiled by Professor Belman, of the University of Bonn, relates the career of a notorious drunkard who was born in 1740 and died in 1800. Her descendants numbered 834, of whom 709 have been traced from their youth. Of these 7 were convicted of murder, 76 of other crimes, 142 were professional beggars, 64 lived on charity, and 181 women of the family led disreputable lives. The family cost the German Government for maintenance and costs in the courts, almhouses, and prisons no less a sum than 1,250,000 dollars; in other words, just a fraction under 1,500 dollars each.—*Med. Rec.*

### STARVATION TANNER.

THIS gentleman, for whom, says the *Medical Record*, starvation had no terrors, has perished by flame, according to a dispatch from Akron, O., he having been burnt to death in a conflagration in that city on the 21st Oct., 1896.

## SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;  
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### VITAL STATISTICS

*For four Weeks ending Saturday, January 30, 1897.*

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	Jan. 9	Jan. 16	Jan. 23	Jan. 30		Jan. 9	Jan. 16	Jan. 23	Jan. 30
Armagh -	28.0	35.1	35.1	35.1	Lisburn -	34.1	21.3	21.3	46.8
Ballymena	33.8	33.8	22.5	11.3	Londonderry	18.8	29.8	31.4	36.1
Belfast -	28.3	26.7	35.4	34.5	Lurgan -	13.7	31.9	36.5	13.7
Carrickfer- gus	35.1	40.9	11.7	23.4	Newry -	20.1	24.1	32.2	24.1
Clonmel -	30.7	12.3	12.3	117.1	Newtown- ards	28.3	28.3	22.7	22.7
Cork -	20.1	22.8	29.8	36.0	Portadown -	30.9	30.9	49.5	30.9
Drogheda -	13.2	30.7	22.0	34.2	Queenstown	23.0	45.9	40.2	23.0
Dublin -	34.6	33.9	42.4	41.3	Sligo -	30.5	15.2	40.6	40.6
Dundalk -	8.4	25.1	20.9	8.4	Tralee -	5.6	—	16.8	33.6
Galway -	41.5	30.2	41.5	11.3	Waterford -	52.5	20.0	30.0	15.9
Kilkenny -	9.4	28.3	18.9	33.0	Wexford -	36.1	27.1	22.6	40.6
Limerick -	32.3	25.3	35.1	21.1					

In the week ending Saturday, January 9, 1897, the mortality in thirty-three large English towns, including London (in which the rate was 18.5), was equal to an average annual death-rate of 19.3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22.8 per 1,000. In Glasgow the rate was 25.9. In Edinburgh it was 19.0.

The average annual death-rate represented by the deaths registered

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during the week in the twenty-three principal town districts of Ireland was 29·6 per 1,000 of the population, which, for the purposes of this Return, is estimated at 984,720.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 3·6 per 1,000, the rates varying from 0·0 in thirteen of the districts to 12·4 in Portadown,—the 5 deaths from all causes registered in that district comprising 2 from measles.

Among the 153 deaths from all causes registered in Belfast are 6 from measles, 1 from scarlatina, 8 from whooping-cough, 1 from simple continued fever, 2 from enteric fever, and 1 from diarrhoea.

The 29 deaths in Cork include 2 from whooping-cough. The 23 deaths in Limerick include 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 182—104 boys and 78 girls; and the registered deaths to 236—125 males and 111 females.

The deaths, which are 19 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 35·2 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 34·6 per 1,000.

Forty-eight deaths from zymotic diseases were registered, being 6 over the number for the preceding week, and 27 above the average for the first week of the ten years 1887-1896. The 48 deaths include 9 from measles, 4 from scarlet fever (scarlatina), 1 from typhus fever, 1 from influenza, 19 from whooping-cough, 4 from enteric fever, and 3 from diarrhoea and dysentery.

Four cases of enteric fever were admitted to hospital against 11 admissions in the preceding week. Eight enteric fever patients were discharged and 46 remained under treatment on Saturday, being 4 under the number in hospital on that day week.

The number of cases of scarlatina admitted to hospital was 38, being 17 over the admissions in the preceding week. Forty-four patients were discharged, 2 died, and 185 remained under treatment on Saturday, being 8 under the number in hospital on that day week. This number is exclusive of 13 convalescents at Beneavin Convalescent Home, Glasnevin.

Seventy-eight cases of measles were admitted to hospital, while in the 3 preceding weeks the numbers were 44, 36, and 99 respectively. Thirty-one patients were discharged and 9 died, while 200 remained under treatment on Saturday, being 38 over the number in hospital at the close of the preceding week.

Six cases of typhus were admitted to hospital, and 16 patients remained under treatment at the close of the week.

Fifty-nine deaths from diseases of the respiratory system were registered, being 1 under the average for the first week of the ten years 1887-1896, and 7 under the number for the previous week. The 59 deaths include 41 from bronchitis and 14 from pneumonia.

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In the week ending Saturday, January 16, the mortality in thirty-three large English towns, including London (in which the rate was 17.9), was equal to an average annual death-rate of 19.2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21.9 per 1,000. In Glasgow the rate was 23.5, and in Edinburgh it was 20.3.

The average annual death-rate in the twenty-three principal town districts of Ireland was 28.9 per 1,000 of their aggregate population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4.0 per 1,000, the rates varying from 0.0 in thirteen of the districts to 12.4 in Portadown—the 5 deaths from all causes registered in that district comprising 2 from measles.

Among the 144 deaths from all causes registered in Belfast are 6 from whooping-cough, 3 each from measles and scarlatina, and 2 each from enteric fever and diarrhoea. The 33 deaths in Cork comprise 1 from measles, but among the 18 deaths in Limerick there was no case of zymotic disease.

In the Dublin Registration District the registered births amounted to 231—131 boys and 100 girls; and the registered deaths to 233—106 males and 127 females.

The deaths, which are 12 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 34.8 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 33.9 per 1,000.

Fifty-seven deaths from zymotic diseases were registered, being 9 over the number for the preceding week, and 29 over the average for the 2nd week of the ten years 1887-1896. The 57 deaths include 9 from measles, 5 from scarlet fever (scarlatina), 2 from typhus fever, 27 from whooping-cough, 2 from enteric fever, 2 from diarrhoea, and 5 from influenza.

Ninety-three cases of measles were admitted to hospital, being

15 over the admissions in the preceding week. Sixty-one patients were discharged and 5 died, while 227 remained under treatment on Saturday, being 27 over the number in hospital at the close of the preceding week.

Twenty-eight scarlatina patients were admitted to hospital, being 10 under the number admitted in the preceding week. Forty-four patients were discharged and 4 died, while 165 remained under treatment on Saturday, being 20 under the number in hospital on that day week. This number is exclusive of 10 convalescents in the Beneavin Convalescent Home, Glasnevin.

Three cases of enteric fever were admitted to hospital against 4 cases in the preceding week. Seventeen enteric fever patients were discharged, and 31 remained under treatment on Saturday, being 15 under the number in hospital on that day week.

Three cases of typhus were admitted to hospital, 3 were discharged, 2 died, and 14 remained under treatment at the close of the week.

Fifty-two deaths from diseases of the respiratory system were registered, being 21 under the average for the second week of the ten years 1887-1896, and 7 under the number for the previous week. The 52 deaths include 30 from bronchitis, 18 from pneumonia, and 2 from croup.

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In the week ending Saturday, January 23, the mortality in thirty-three large English towns, including London (in which the rate was 18.1), was equal to an average annual death-rate of 19.7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24.6 per 1,000. In Glasgow the rate was 28.9, and in Edinburgh it was 22.2.

The average annual death-rate represented by the deaths registered in the twenty-three principal town districts of Ireland was 35.8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4.5 per 1000, the rates varying from 0.0 in fourteen of the districts to 12.4 in Portadown—the 8 deaths from all causes registered in that district comprising 1 from measles and 1 from whooping-cough. Among the 191 deaths from all causes registered in Belfast are 8 from measles, 1 from scarlatina, 7 from whooping-cough, 1 from simple and ill-defined fever, and 2 from enteric fever. Among the 43 deaths in Cork are 2 from whooping-cough, and among the 11 deaths in Galway are 2 from scarlatina and 1 from simple continued and ill-defined fever.

Two deaths from whooping-cough and 1 from diarrhoea occurred in Newry, out of a total of 8 deaths from all causes.

In the Dublin Registration District the registered births amounted to 205—99 boys and 106 girls; and the registered deaths to 294—153 males and 141 females.

The deaths, which are 51 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 43.9 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 42.4 per 1,000. During the three weeks of the current year the death-rate averaged 38.0, and was 3.0 over the mean rate in the corresponding period of the ten years 1887-1896.

Sixty-three deaths from zymotic diseases were registered, being 6 over the number registered in the preceding week, and 36 in excess of the average for the 3rd week of the last ten years. The 63 deaths comprise 15 from measles, 4 from scarlet fever (scarlatina), 1 from typhus fever, 23 from whooping-cough, 1 from diphtheria, 1 from simple continued and ill-defined fever, 2 from enteric fever, 10 from diarrhoea and dysentery (including 3 from dysentery which took place in the Richmond District Lunatic Asylum), 2 from erysipelas, 1 from septicæmia, and 3 from other zymotic diseases.

Sixty-eight cases of measles were admitted to hospital, being 25 under the admissions in the preceding week. Forty-four patients were discharged and 6 died, while 245 remained under treatment on Saturday, being 18 over the number in hospital at the close of the preceding week.

Twenty-one scarlatina patients were admitted to hospital, being 7 under the number for the preceding week: 32 patients were discharged and 5 died during the week, while 149 remained under treatment on Saturday, being 16 under the number in hospital on that day week. This number is exclusive of 17 convalescents under treatment in Beneavin Convalescent Home, Glasnevin.

Six cases of enteric fever were admitted to hospital, being 3 in excess of the number admitted in the preceding week. Six patients were discharged, and 31, as on the previous Saturday, remained under treatment at the end of the week.

Four cases of typhus were admitted to hospital, and 13 patients remained under treatment at the close of the week.

The number of deaths from diseases of the respiratory system registered was 80, being 28 over the number for the preceding week, and 8 over the average for the third week of the previous

ten years. The 80 deaths include 55 from bronchitis, 20 from pneumonia, and 2 from pleurisy.

In the week ending Saturday, January 30, the mortality in thirty-three large English towns, including London (in which the rate was 19.9), was equal to an average annual death-rate of 20.6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24.3 per 1,000. In Glasgow the rate was 26.3, and in Edinburgh it was 23.3.

The average annual death-rate in the twenty-three principal town districts of Ireland was 35.6 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the twenty-three districts were equal to an annual rate of 4.8 per 1,000, the rates varying from 0.0 in fourteen of the districts to 19.5 in Clonmel—the 24 deaths (all occurring in public institutions) registered in that district comprising 1 from scarlatina, 1 from diphtheria, 1 from enteric fever, and 1 from diarrhoea. Among the 186 deaths from all causes registered in Belfast are 8 from measles, 3 from scarlatina, 5 from whooping-cough, 5 from enteric fever, and 1 from diarrhoea. The 52 deaths in Cork comprise 7 from measles, 1 from whooping-cough, 1 from diphtheria, and 1 from diarrhoea. Among the 6 deaths in Tralee are 1 from measles and 2 from diarrhoea.

In the Dublin Registration District the registered births amounted to 195—102 boys and 93 girls; and the registered deaths to 284—136 males and 148 females.

The deaths, which are 60 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 42.4 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 41.3 per 1,000. During the first four weeks of the current year the death-rate averaged 39.1, and was 4.5 above the mean rate in the corresponding period of the ten years 1887–1896.

Fifty-nine deaths from zymotic diseases were registered, being 4 under the number in the preceding week, but 32 in excess of the average for the fourth week of the last ten years. The 59 deaths comprise 7 from measles, 6 from scarlet fever (scarlatina), 1 from typhus fever, 27 from whooping-cough, 1 from enteric fever, 4 from diarrhoea, 2 from erysipelas, 5 from influenza, 1 from mumps, and 1 from German measles.

One hundred and four cases of measles were admitted to hospital, being 36 over the admissions in the preceding week. Eighty-nine

patients were discharged and 4 died, while 256 remained under treatment on Saturday, being 11 over the number in hospital at the close of the preceding week.

Nineteen scarlatina patients were admitted to hospital, being 2 under the admissions in the preceding week. Forty-three patients were discharged and 5 died, while 120 remained under treatment on Saturday, being 29 under the number in hospital on the preceding Saturday. Eighteen convalescents in addition were under treatment at Beneavin, Glasnevin.

Thirteen cases of enteric fever were admitted to hospital, being 7 in excess of the number for the preceding week. Eight patients were discharged, and 36 remained under treatment on Saturday, being 5 over the number in hospital on the previous Saturday.

No case of typhus was admitted to hospital, and only 9 cases remained under treatment on Saturday.

The number of deaths from diseases of the respiratory system registered was 86, being 6 over the number for the preceding week, and 25 over the average for the fourth week of the last ten years. The 86 deaths comprise 67 from bronchitis and 14 from pneumonia.

#### METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W. for the Month of January, 1897.*

Mean Height of Barometer, -	-	-	29.918 inches.
Maximal Height of Barometer (on 1st, at 9 p.m.)	30.434	"	
Minimal Height of Barometer (on 30th, at 7 30 a.m.),	-	-	29.284 "
Mean Dry-bulb Temperature,	-	-	37.3°.
Mean Wet-bulb Temperature,	-	-	35.9°.
Mean Dew-point Temperature,	-	-	33.9°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	.197 inch.
Mean Humidity,	-	-	88.0 per cent.
Highest Temperature in Shade (on 3rd),	-	-	51.3°.
Lowest Temperature in Shade (on 17th),	-	-	25.0°.
Lowest Temperature on Grass (Radiation) (on 17th),	-	-	21.2°.
Mean Amount of Cloud,	-	-	61.0 per cent.
Rainfall (on 17 days),	-	-	2.694 inches.
Greatest Daily Rainfall (on 6th),	-	-	.579 inch.
General Directions of Wind,	-	-	W.N.W., E.S.E.

*Remarks.*

Opening with a brilliantly fine day, January, 1897, proved a cold, changeable month. Between the 3rd and the 10th, inclusive, there was an abundant rainfall with S.E. winds, owing to the presence of depressions over the Atlantic off the S.W. of Ireland. The weather was open at this time, but after the 14th frequent frosts occurred; and a good deal of snow fell from time to time, particularly in the N. of Scotland, where the weather was at times extremely severe.

In Dublin the arithmetical mean temperature ( $38\cdot1^{\circ}$ ) was much below the average ( $41\cdot4^{\circ}$ ); the mean dry bulb readings at 9 a.m. and 9 p.m. were  $37\cdot3^{\circ}$ . In the thirty-two years ending with 1896, January was coldest in 1881 (M. T. =  $33\cdot2^{\circ}$ ), and warmest in 1875 (M. T. =  $46\cdot6^{\circ}$ ). In 1895 the M. T. was  $35\cdot4^{\circ}$ , and in 1896 it was  $44\cdot3^{\circ}$ . As a general rule, January in Dublin is not colder, but a shade warmer, than December. This is owing to the full development in January of a winter area of low pressure over the Atlantic, to the northwestward of the British Isles, and to a resulting prevalence of S.W. winds in their vicinity. January, 1897, proved an exception to this rule, the M.T. being  $3\cdot3^{\circ}$  below that of December, 1896 ( $41\cdot4$ ).

The mean height of the barometer was  $29\cdot918$  inches, or  $0\cdot044$  inch above the corrected average value for January—namely,  $29\cdot874$  inches. The mercury rose to  $30\cdot434$  inches at 9 p.m. of the 1st, and fell to  $29\cdot284$  inches at 7 30 a.m. of the 30th. The observed range of atmospheric pressure was, therefore,  $1\cdot150$  inches.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was  $37\cdot3^{\circ}$ , or  $3\cdot5^{\circ}$  below the value for December, 1896. Using the formula, *Mean Temp. = Min. + (max. - min. × 0.52)*, the M. T. becomes  $38\cdot3^{\circ}$ , compared with a twenty-five years' average of  $41\cdot5^{\circ}$ . The arithmetical mean of the maximal and minimal readings was  $38\cdot1^{\circ}$ , compared with a twenty-five years' average of  $41\cdot4^{\circ}$ . On the 3rd the thermometer in the screen rose to  $51\cdot3^{\circ}$ —wind, S. to S.W.; on the 17th the temperature fell to  $25\cdot0^{\circ}$ —wind, W. The minimum on the grass was  $21\cdot2^{\circ}$ , also on the 17th.

The rainfall was  $2\cdot694$  inches, distributed over 17 days. The average rainfall for January in the twenty-five years, 1865-89, inclusive, was  $2\cdot200$  inches, and the average number of rainy days was  $17\cdot3$ . The rainfall, therefore, was above, while the rainy days were equal to, the average. In 1877 the rainfall in January was very large— $4\cdot322$  inches on 25 days; in 1869, also,  $4\cdot258$  inches

fell—on, however, only 18 days. But the record rainfall for January was in 1895—namely, 5.711 inches on 24 days, or nearly eight times as much as the rainfall for January, 1896 (·720 inch). In 1876 only ·406 inch was measured on but 9 days; and in 1880 the rainfall was only ·563 inch on but 8 days.

The atmosphere was foggy on the 5th, 10th, 11th, 12th, 15th, 16th, 17th, 18th, and 27th. High winds were noted on 11 days, reaching the force of a gale on 4 days—the 5th, 6th, 7th, and 22nd. Snow or sleet fell on the 16th, 22nd, 23rd, 25th, and 26th. Hail fell on the 15th, 20th, 22nd, 23rd, and 25th. Temperature exceeded 50° in the screen on only 2 days—the 2nd and 3rd; while it fell to or below 32° in the screen on 13 nights, compared with only 3 nights in 1896, 18 in 1895, 7 in 1894, 4 in 1893, 15 in 1892, 7 in 1891, 1 night in 1890, and 3 nights in 1889. The minima on the grass were 32° or less on 21 nights, compared with 8 nights in 1896, 29 in 1895, 17 in 1894, 16 in 1893, 25 in 1892, 21 in 1891, 15 in 1890, and 16 in 1889.

New Year's Day, 1897, was brilliantly fine—not a cloud showed in the sky from morning till night. Saturday, the 2nd, was less fair, but on the whole fine and mild, although at times cloudy.

Interesting from a meteorological point of view, the weather of the week ended Saturday, the 9th, was very unsettled and inclement. At the beginning of the period depressions were still passing northwards outside the Western Coasts of Ireland and Scotland, so that S. and S.W. winds prevailed, with rains and bright intervals alternately. Monday was fair and sunny in Dublin, although a heavy dash of rain occurred in the evening. Tuesday broke cold, damp, and foggy, and as the day advanced the wind became S.E. and freshened until at night it blew a gale with heavy rain. From that time to the close of the week, storm, gloom, and rain were paramount. This state of things was brought about by the gradual advance across Northern Europe south-westwards of an anticyclone, in which the barometer rose above 30.70 inches in Sweden on Friday morning; while, at the same time, deep depressions approached the S.W. of Ireland on Wednesday morning (barometer down to 28.99 inches at Valentia Island) and the mouth of the English Channel on Friday morning. The north-easterly course of the system in each case was arrested by the high pressure area over Scandinavia. Gales from S.E. to E. prevailed, the sky remained densely clouded, and rain fell in large quantities, especially in the S.W. and S. of England and the S. and E. of Ireland. Temperature gave way considerably on Friday and Saturday, which were dull and cold in the extreme. In Dublin the mean height of the barometer

was 29.708 inches, pressure ranging between 29.985 inches at 9 a.m. of Sunday (wind, S.) and 29.452 inches at 9 p.m. of Wednesday (wind, E.S.E.). The corrected mean temperature was 43.3°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 42.0°. On Sunday the screened thermometers rose to 51.3°. On Tuesday they fell to 33.1°. Rain fell daily to the total amount of 1.771 inches, .579 inch being measured on Wednesday. The prevailing winds were S.S.W., S.E., and E.

Much finer and generally colder weather was experienced in the period ended Saturday, the 16th. Until Tuesday the distribution of atmospheric pressure remained much the same as it had been during the previous week. Thus, an anticyclone was found over Scandinavia and the North of Russia, while the barometer was relatively low to the S.W. of our Islands. Gradients, however, were not at all so steep, and the S.E. gales accordingly subsided. Sunday was gloomy, damp, and finally wet and foggy in Dublin. Gloom and fog prevailed also on Monday. On Tuesday a new depression appeared off the coast of Kerry, renewing the strong S.E. winds and bringing a considerable fall of rain to the County Cork. A complete change now took place. The Scandinavian anticyclone moved away eastwards and partially dispersed, while a new area of high barometer advanced upon the N.W. of Ireland from the Atlantic. This system developed rapidly until on Thursday morning the barometer rose above 30.40 inches in the West of Ireland. Light to moderate N.E. winds resulted, and showers of hail and snow began to fall along the east coast of both Great Britain and Ireland. In Dublin the ground was covered with snow on Saturday morning, and calms and dense fogs prevailed. The mean height of the barometer at this station was 29.965 inches, pressure ranging between 29.544 inches at 9 a.m. of Sunday (wind, S.E.) and 30.380 inches at 9 a.m. of Thursday (wind, N.). The corrected mean temperature was 38.3°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 36.7°. On Monday the screened thermometers rose to 44.6°, on Saturday they fell to 29.1. The rainfall was .097 inch on two days, .076 inch being measured on Sunday. The prevalent winds were S.E. and afterwards N.W. A little hail fell on Friday, snow on Saturday.

During the week ended Saturday, the 23rd, cold, and at times very cold, weather prevailed, and at its close snow lay thickly on the ground in most districts. On Sunday a very sharp frost occurred in Dublin, the thermometer falling to 25.0° in the screen and to 21.2° on the ground. A beautiful sunny, yet frosty, day followed. On Monday morning sharp frost was reported from England, while

the cold relaxed in both Scotland and Ireland. The northern half of the British Isles now came under the influence of an arm of high atmospheric pressure, which stretched across the North Sea from Scandinavia. At the same time the barometer fell in France as depressions moved north-eastwards across the Peninsula and the Mediterranean. As a result, strong easterly winds set in on Tuesday night, accompanied by bitterly cold weather and showers of hail and sleet or snow. At 8 a.m. of Wednesday the barometer stood a little above 30.5 inches in the Hebrides. This system of high pressure afterwards moved southwards and dispersed, while a rapid reduction of pressure over Scandinavia took place and a well-marked cyclonic system travelled southwards across Central Europe during the last two days of the week. This disturbance brought northerly and north-easterly gales to the British and Irish coasts, as well as heavy falls of snow and hail. In Dublin a small blizzard was felt on Friday afternoon, and at 3.40 p.m. a bright flash of lightning was quickly followed by a loud peal of thunder. On Saturday snow lay in this city to the depth of about 2 inches. The mean atmospheric pressure was 30.092 inches, the barometer rising to 30.238 inches at 9 a.m. of Wednesday (wind, E.N.E.), and falling to 29.744 inches at 11 p.m. of Thursday (wind, W.N.W.). The corrected mean temperature was 35.1°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 34.8°. On Sunday the screened thermometers fell to 25.0°, on Wednesday they rose to 42.0°. The rainfall (which consisted chiefly of snow and hail) was equal to .280 inch, .218 inch being measured on Friday. There were three "rainy" days. The prevalent wind was N.E. Thunder and lightning occurred on Friday.

Cold, changeable weather prevailed throughout the week ended Saturday, the 30th. After Thursday, however, the frost broke up, and a considerable fall of rain occurred on Friday night and Saturday morning in connection with a large and deep atmospheric depression which crossed the British Islands towards the east at that time. Sunday opened with sharp frost, but a rapid thaw set in as the day advanced, and there were light showers of rain in the afternoon. These changes were due to the approach of a deep depression, which lay over the Shetlands on Monday morning, when the barometer was down to 28.95 inches at Sumburgh Head. The system subsequently crossed the North Sea in a south-easterly direction. It caused a violent snowstorm and severe frost in the North of Scotland—the melted snow yielded 1.5 inches of rain in the gauge at Wick on Tuesday morning. This represents some 18 inches of snow on the level. On Wednesday a high pressure

system appeared off the West of Ireland and the weather moderated. A gradual rise of temperature now took place, spreading south-eastwards over the kingdom. On Friday the anticyclone in the West dispersed as a new and deep depression approached Ireland from the Atlantic. In front of the disturbance the wind for a while backed to S., and rain set in with a further increase of temperature—in Dublin, however, only to  $42.8^{\circ}$ . Early on Saturday the wind again veered to N.W. in the rear of the centre of low pressure, and temperature gave way—sleet and snow falling on the Dublin and Wicklow mountains. The mean barometric pressure was 29.854 inches, the observed range being from 30.303 inches at 9 p.m. of Wednesday (wind, W.N.W.), to 29.284 inches at 7.30 a.m. of Saturday (wind, N.W.). The corrected mean temperature was  $35.5^{\circ}$ . The mean dry bulb reading at 9 a.m. and 9 p.m. was  $34.3^{\circ}$ . On Sunday the screened thermometers fell to  $25.9^{\circ}$ , on Saturday they rose to  $43.8^{\circ}$ . The rainfall was .261 inch on four days, .190 inch being registered on Friday. The prevalent wind was W.N.W.

Sunday, the 31st, was fair to cloudy, overcast, and finally rainy.

In Dublin the rainfall up to January 31st, 1897, amounted to 2.694 inches on 17 days, compared with 5.711 inches on 24 days in 1895, only .720 inch on 14 days in 1896, and with a twenty-five years' average (1865–1889) of 2.200 inches on 17.3 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 3.660 inches on 20 days, compared with only .485 inch on 7 days in 1896, and 6.190 inches on 19 days in 1895. The heaviest falls in 24 hours were .580 inch on the 5th, and .620 inch on the 6th.

At Clonkeevin, Killiney, Co. Dublin, the rainfall was 3.080 inches on 20 days, .650 inch being measured on the 6th. The average fall for the 12 years, 1885–1896, was 2.235 inches on 16.5 days. Snow fell on the 14th, 15th, and 22nd. In 1894 the rainfall was 3.260 inches on 23 days, in 1895 it was 5.930 inches on 24 days, in 1896 it was .700 inch on 9 days. In 1891 only .47 inch fell on, however, 11 days.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, rain fell on 19 days in January, the total measurement being 3.878 inches. On the 5th, .560 inch was registered; on the 6th, .520 inch; and on the 3rd, .510 inch. At this climatological station the thermometer in the screen sank to  $32^{\circ}$  or lower on 10 nights. The highest temperature in the shade was  $47.0^{\circ}$  on the 7th; the lowest was  $25.8^{\circ}$  on the 24th. Snow fell on the 16th, 22nd, 24th, and 25th.

## PERISCOPE.

### ANTITOXIN.

WE learn from a note in the *Occidental Medical Times* that the American Pediatric Society is organising a second collective investigation into the curative power of antitoxin, with especial reference to laryngeal diphtheria. The present aim is to ascertain—(1) What percentage of cases of laryngeal diphtheria recover without operation under antitoxin treatment. (2) What percentage of operated cases recover. The second report is designed to be a study of cases occurring between the closing of the first report (May 1, 1896) and the closing of the present collective investigation (April 1, 1897).

### HEALTH OF THE UNITED STATES ARMY.

IN the report of the Surgeon-General of the Army for the year ended on June 30th, 1896, it is stated that the health of the army was better last year than ever before. Dr. Sternberg writes: "All the rates that are usually considered by statisticians as throwing light on the physical condition of a community have been lower than in any previous year of the recorded history of our army. The number constantly sick was 33.89 per thousand of strength, as compared with 34.49 during 1894, and 41.87 as the average annual rate of the preceding ten years. The mortality rate from all causes was 5.16 per thousand of strength, as compared with 6.69 in 1894 and 7.85 for the preceding decade. The lowest previous rate was 6.35, in 1889."—*Med. Rec.*

### FLOWERS IN BEDROOMS.

AN American actress, it is announced, has recently escaped death only by a hairsbreadth in consequence of the too oppressive odour of violets in her bedroom. An enthusiastic admirer having sent her a large hamper full of violets, she distributed the flowers in vases about her bedroom, and, after shutting down her window, went to sleep. Next morning she was discovered in a collapsed condition, and was with the greatest difficulty brought back to life. This is an American story, and may perhaps be questioned by the sceptical. But the present writer well remembers a similar experience which was related to him by the late Sir Andrew Clark, not long before his death. Sir Andrew was called to a patient who had been

suffering some days with obscure internal symptoms, of which the family doctor had failed to find the cause. The great physician examined the patient in turn, and could not satisfy himself as to the exact nature or cause of the attacks. He, however, prescribed, and hoped for the best. A few days afterwards he was called again, the patient being manifestly in a very dangerous condition; and, again, after making the most thorough investigation of the patient and attendant circumstances, failed to satisfy his judgment as to the true nature or the cause of the illness. Being thus brought to a dead stand, Sir Andrew looked round the room to see if he could find evidence of the presence of damp or mould. All the walls were dry, and the place seemed in every way healthy. Proceeding to investigate further, he found, hidden away out of sight, a vase of drooping flowers—hyacinths, if memory serves correctly—several days old. The water in the vase, or what was left of it, was of a very offensive odour. Thereupon a change of room was ordered for the patient, with the result that recovery commenced at once, and was complete within a very few days. The rule should be that, where flowers are kept in bedrooms, they should be changed frequently, and those which yield a heavy odour should not be preserved after the day is over. In sittingrooms the case is somewhat different; but even in them flowers should not be kept for more than a few days, and the vases in which they are placed should be well washed out with hot water once or twice a week.—*The Hospital.*

#### SYMPHYSEOTOMY.

DR. MAYARIET (*L'Obstétrique*, January, 1896) says that the most recent statistics are as yet somewhat discouraging. Neugebauer gives a maternal mortality of 11.1 per cent., and that of the child 19 per cent. The operations of M. Pinard and his followers in the last four years have given a mortality of 10.14 per cent. for the mothers and of 11.59 per cent. for the children. Perhaps this mortality would diminish considerably if all operators were careful and abstained from interfering whenever any unfavourable condition exists in mother or child which would compromise the success of the operation.—*Med. Rec.*

#### ECLAMPSIA.

THE *Gazette Médicale de Paris* gives prominence to the Russian physician Schmoukler's views as to the pathogeny of puerperal eclampsia. Menstruation, he thinks, frees the organism from certain toxic products of organic decompositions in the system. During pregnancy these products accumulate. The condition may be

aggravated by renal incompetence. Hence eclampsia occurs only in the pregnant or the recently delivered. Hence, too, it may occur without any lesion of the kidneys. The indication, therefore, for prevention is to eliminate these toxic products by sudorifics—warm baths, blankets, pilocarpin. If the kidneys are suspected, mild diuretics, laxatives, milk diet will aid. If such prevention fails and an attack occurs the same treatment should be pursued with greater vigour. In extreme cases premature labour must be induced.

#### INDIAN MEDICAL SERVICE.

THE Military Secretary, India Office, London, S.W., forwards the following official list of the candidates for Her Majesty's Indian Medical Service who were successful at the Competitive Examination held in London on February 5, 1897, and following days:—

	Marks obtained		Marks obtained
1. Murray, F. G. P.	- 2,823	5. Dredge, J. A.	- 2,574
2. Anderson, S.	- 2,814	6. Knox, R. W.	- 2,530
3. Hutchinson, F. H. G.	2,646	7. Fenton, A.	- 2,506
4. Marjoribanks, J. L.	- 2,603		

#### ARMY MEDICAL STAFF.

THE following is the official list of successful candidates for Commissions in the Army Medical Staff at the examination held in London in February, 1897:—

Order of Merit	Names	Marks	Order of Merit	Names	Marks
1. Cummins, L. H.	- 2,272	8. Walker, J. G.	- 2,005		
2. Hopkins, C. H.	- 2,207	9. Stallard, H. G. F.	- 1,948		
3. M'Ardle, J.	- 2,159	10. Jephson, L. D.	- 1,887		
4. Mackessack, P.	- 2,158	11. Norrington, H. L. W.	1,876		
5. Hearn, L. J. C.	- 2,143	12. Poe, J.	- 1,847		
6. M'Carthy, J. M'D.	2,065	13. Crean, J.	- 1,828		
7. Brodribb, E.	- 2,055	14. Bowen, A. W. N.	- 1,809		

#### ARMY MEDICAL SCHOOL, NETLEY.

BRITISH MEDICAL SERVICE.—The following is the official List of Surgeons on Probation of the Medical Staff of the British Army who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to

those gained at Netley, and the combined numbers are accordingly shown in the list which follows :—

January 30th, 1897.

	Combined Marks.		Combined Marks.
1. Stammers, G. E. F.	5889	7. Bliss, E. W.	4004
2. Wanhill, C. F.	5006	8. Rattray, M. M.	3999
3. Hudleston, W. E.	4697	9. Power, J. H.	3922
4. Corkery, M. P.	4278	10. Phillips, R. E. G.	3824
5. Gaine, F. J.	4178	11. Clarke, T. H. M.	3772
6. Addains-Williams, L.	4094	12. Marriott, W. E. P. V.	3697

**INDIAN MEDICAL SERVICE.**—The following is the official List of Surgeons on Probation of the Indian Medical Service who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows :—

January 30th, 1897.

	Combined Marks.		Combined Marks.
1. McArdle, A. A. F.	5626	7. Watson, C. H.	4649
2. Woolley, J. M.	5625	8. Lincoln, C. H. S.	4530
3. Lane, C. A.	5300	9. Price, R. H.	4502
4. Kelly, T. B.	5030	10. Baines, E. F. E.	4408
5. Hugo, J. H.	4921	11. Sealy, G. F.	4340
6. Kenrick, W. H.	4900	12. Bryson, R.	4269

The Prizes were presented by the Director General, Army Medical Department.

**EXAMINATION OF CANDIDATES FOR HER MAJESTY'S ARMY AND INDIAN MEDICAL SERVICES.**

THE following are the papers which were set at this Examination :—

*Chemistry and Materia Medica.*—Dr. Shore. Friday, 5th February, 1897, from 10 a.m. till 1 p.m. N.B.—The replies to be

<sup>a</sup> Gained the Herbert Prize of £20; the Montefiore Medal and Prize of 20 guineas, the Parkes Memorial Medal, and the Pathology Prize presented by the Director-General, A.M.D.

<sup>b</sup> Gained the de Chaumont Prize in Hygiene, and the Maclean Prize for Clinical and Ward Work.

<sup>c</sup> Gained the Martin Memorial Medal.

<sup>d</sup> Gained the second Montefiore Prize.

written with the ink provided, and not with a pencil or pale ink.

1. Give an account of phosphorus—(a) the state of its occurrence in nature, (b) the physical properties of its various forms, (c) the formulæ and general properties of its compounds with hydrogen and with chlorine. What other elements resemble phosphorus in their general chemical properties and in the character of the compounds which they form?
2. Compare the general properties of the “aromatic” or benzine series of organic bodies with the “fatty” or paraffin series.
3. State the chemical composition of chloral and of chloral hydras. How is chloral prepared? State the actions, and mention the chief uses of this substance.
4. Give an account of the effects of overdoses or of too prolonged use of mercurials.
5. Mention the more important drugs which act specially on the spinal cord, indicating, as far as you can, the nature of the action in each case and the particular part of the cord affected.

*Surgery.*—Sir William MacCormac. Friday, 5th February, 1897, from 2 p.m. till 5 p.m. All four questions to be answered.

1. Describe the mode of formation of renal calculus. Mention the varieties met with. What symptoms indicate the presence of stone in the kidney? Give the treatment.
2. What are the causes, and what the diagnosis and treatment of the common form of dislocation of the humerus, both in recent cases and after a considerable interval?
3. Describe the treatment of a compound fracture of the tibia and fibula, and discuss the indications which would determine the necessity for amputation.
4. Give the symptoms, pathology and treatment of a case of acute glaucoma.

*Anatomy and Physiology.*—Mr. Makins. Saturday, 6th February, 1897, from 10 a.m. till 1 p.m.

1. Describe the submaxillary triangle of the neck.
2. Give an account of the arrangement of the synovial membrane of the knee and its extensions. Mention in their relative positions the tendons which surround this joint.
3. Describe the form, position, and relations of the supra-renal bodies, and give a short account of what knowledge exists as to their functions.
4. Give a general account of the sources and peculiarities in arrangement of the arterial supply of the brain. Indicate the cortical areas supplied by the anterior, middle, and posterior cerebral arteries, respectively.

*Medicine.*—Dr. Allchin. 1. State the diagnosis you would have made of the following case, the nature and situation of the lesion, and the reasons for your opinion. How would you have

treated the case and what prognosis would you have formed:—  
J. W., aged 34, a commercial traveller, was admitted to the hospital in consequence of being paralysed in the left side. His family history was unimportant. Four years ago he is said to have had "pleurisy and inflammation of the lungs," and two years ago contracted syphilis, for which he was under treatment 18 months. He has lived well and drank freely, chiefly whiskey. His present illness came on suddenly three and a half months before admission when at the sea-side. In the afternoon, whilst lying down after dinner (having bathed in the sea for nearly two hours earlier in the day) he was seized with pain in the loins and front of the head. He had previously been quite well. After the pain had lasted about half an hour, the left side of his body and face twitched, but only for a few seconds. He was not unconscious. After a short time he was able to get up and managed to go for a short walk with his wife, though he moved his leg with some difficulty. He returned to London next day and for more than a week attempted to follow his employment, but he finally had to give it up, owing to increasing loss of power to his left side, which became complete in about 15 days from his first attack. During this period it was noticed that the patient was very drowsy. He is reported also to have been somewhat childish in manner for two months previous to admission, and kept his bed entirely. Since the day after his attack he had been under medical treatment, but the nature of this is unknown. The day after admission patient was found to be a well-nourished man, not anaemic, without oedema of face, trunk or extremities, but with a diffuse copper-coloured erythematous rash on upper part of body. He complained of some frontal headache. His manner was hesitating and slow, but he answered all questions rationally, there was some wandering and mild delirium at night, with attempts to get out of bed. The face is slightly drawn to the right, and the left side is smoother. Both eyes can be closed tightly and equally; there is no paralysis of the ocular muscles, nor of those of mastication. Pupils are equal and react equally, though sluggishly, to light and to accommodation. The tongue is protruded very considerably to the left, but lies evenly in the mouth. He says there is a little numbness of the left side of the face as well as in the left arm and leg. In these limbs there is complete loss of power, involving every segment of each, but sensation is in no degree impaired. The left knee-jerk is exaggerated, and distinct ankle clonus is elicited on the same side, the left plantar reflex being

very sluggish, much more so than on right side. There is no rigidity or wasting of the limbs. The electrical reactions are normal. There is no loss of control over the bladder and rectum, but patient says he cannot pass his water without at the same time passing a motion. Optic discs hyperæmic, veins full, and outline of disc on nasal side is indistinct. Pulse 80, regular, of good volume but very soft. Heart sounds indistinct and distant, but no murmur audible. Lungs normal. Nothing abnormal found in abdomen. Urine, sp. gr. 1030, acid, no albumen, no sugar. Temperature normal. 2. Describe the microscopic characters of normal blood, and state what modifications are met with in chlorosis, pernicious anaemia, splenic anaemia, leucocythaemia and lymphadenoma. 3. What are the morbid conditions leading to the formation of dilated bronchi? By what signs and symptoms is bronchiectasis recognised? 4. Describe in detail the treatment (dietetic, medicinal, and general) of a case of chronic nephritis, in which there is considerable anasarca and albuminous urine.

*Natural Sciences.*—Dr. Shore. Thursday, 11th February, 1897, from 10 a.m. till 1 p.m. Candidates may answer not more than six questions, and they must confine themselves to two branches of science only. *Zoology and Comparative Anatomy.*

1. Describe the structural features which characterise the mollusca. Compare the lamellibranchiata with the odontophora.
2. Give an account of the anatomy of the lancelet (*amphioxus*).
3. Explain the term "alternation of generations," describing the life histories of some organisms which exhibit this phenomenon.

*Botany:*—1. State the morphological characters of the various kinds of bacteria. What is the "zoogloa" condition. 2. Describe the structure and functions of a typical root. 3. State the diagnostic characters of the following natural orders:—Rosaceæ, umbelliferae, coniferæ, orchidaceæ, and gramineæ.

*Physics:*—1. Describe the phenomena called "phosphorescence" and "fluorescence," mentioning substances which exhibit them. Explain the phenomena, as far as you can. 2. Give an account of the circumstances which may affect (a) the velocity, (b) the intensity of sound. 3. Explain the circumstances which determine the strength of a galvanic current. State Ohm's law. Explain the terms—"Ohm," "Volt," and "Ampère."

*Physical Geography and Geology:*—1. What is the difference between a "volcanic" and a "plutonic" rock? Mention and briefly describe the chief volcanic and plutonic rocks. 2. Describe the production of land and sea breezes. What are the "monsoons"?

Explain clearly the terms "cyclone" and "anti-cyclone."  
3. Upon what important factors does the climate of a district depend?

## RECRUITS IN U.S. ARMY.

THE following extract from the Report of the Surgeon-General for the year ending June 30, 1896, may be interesting for comparison with the British Army Report—when it comes:—"The total number of men examined for enlistment was 17,645, of whom 8,643 were accepted, or 489·83 of every thousand examined. The ratio of accepted men was higher among the coloured men, 540·57, than among the whites, 486·46. Of every thousand accepted recruits 727·18 were natives of the United States—659·38 whites and 67·80 negro. In 1894 the ratio of native born recruits was 679·99, and in 1883 665·95. Of foreign nationalities Germany and Ireland furnished the largest proportionate numbers, 88·97 and 75·44 per thousand recruits. The average height of these recruits was 67·51 inches, the native born white recruit 67·68 inches, being somewhat taller than the negro, 67·37, and fully half an inch taller than the foreign born recruit, whose average was 67·14 inches. The foreign born recruit had the advantage over the native born white in weight, the former averaging 147·18 pounds, the latter 145·68. The negro exceeded both, his average being 149·85 pounds. In chest measurement and expansibility also the advantage appears to have been with the foreign born recruit, his measurement at expiration and inspiration being 34·80 and 37·73 inches, as compared with the native born white, who averaged 34·26 and 37·17. The corresponding measurements of the negro were 34·27 and 36·89 inches."

## LEPROSY IN THE UNITED STATES.

THE *Medical Standard* (Chicago) prints an article on the segregation of lepers, from which we extract the following:—

"It is a pity that the public is so ill-informed as to leprosy that it falls into a state of panic at the mere mention of the name, and demands that the poor fellows be practically incarcerated. The disease is contagious, to be sure, but very mildly so. So far as we know, no case of contagion has arisen in this city or environs from the scores of lepers who have been at large in our community during all the past years. There are no exact statistics in regard to the distribution of the disease in the United States, but in 1894 Dr. J. Nevins Hyde stated in Washington that approximately there were about 560 cases known to exist. Of these 158 were in California, mostly among the Chinese; 120 were in Minnesota and

20 in Wisconsin, among the Scandinavians; and 83 in Louisiana, among the descendants of the Acadians who emigrated there many years ago. That would leave about 180 for all the rest of the country. Excepting in Louisiana, the disease practically does not spread, and there is not the least reason for any alarm or anxiety as to its spread. Our climate, our food-supplies, and the general hygienic conditions that prevail in our country are all opposed to its spread. Since the disease is not at all liable to spread in this city, why should lepers be seized upon and confined for the rest of their lives? . . . It cannot be denied that it would be a good thing if we had no leprosy here. It would also be a blessing if we had no syphilis here. As leprosy in this climate is very mildly contagious, and as syphilis is very actively contagious, it would seem that there was far more justice in segregating the cases of the latter rather than of the former. Because the latter numbers its victims by the thousands, and spares not even those in authority, the matter of segregating syphilitic patients will, probably, never be suggested. But the lepers are a feeble folk, therefore attempts are made to separate them and put them out of sight."

#### DR. HEHIR ON MALARIA.

We are indebted to the courtesy of Surgeon-Captain Hehir, M.D., one of the Staff of the Nizam's Medical School at Hyderabad (Deccan), for a copy of his paper on the *Haematozoon of Malaria and its Discovery in Water and Soil*. Since 1887, when he first made the acquaintance of the microbe, he has continued his investigations—at first on the lines followed by Laveran, Marchiafava, Celli, Councilman, Sternberg, Osler, Carter, &c., and subsequently by methods of his own, which are here fully detailed. It is impossible for us to give particulars either of his procedure or his results; but we can commend his study to micro-pathologists, and even to physicians, although, it must be confessed, our bacteriological friends have not, so far, done much to help us in curing or even in preventing malarial fevers.

#### DANGERS OF THYROID EXTRACT.

A recent paper by Dr. Robert Hessler, of the Northern Indiana Hospital for Insane, gives an account of what corresponds to an attack of exophthalmic goitre, brought on by large doses of desiccated thyroid gland. The case was that of a cataleptic who had lain immovable in bed for over three years; there was an absence of motor and sensory activities; the feeding was by means of the nose tube. Under increasing doses of gland constantly

increasing activities resulted, until finally the patient "returned to life" and was able to speak and walk. At a time when 75 grains were given daily, symptoms of exophthalmic goitre appeared and the remedy had to be discontinued temporarily, the pulse going up to 160. In the course of a few days the patient relapsed to his usual condition, but "revived" on again receiving the remedy, with a return of the symptoms mentioned. A similar case recovered promptly in a few weeks on small doses. The thus artificially produced exophthalmic goitre had all the characteristics of the natural disease, minus the glandular enlargement, and all symptoms disappeared on withholding the remedy or under a small dosage. From a study of this case, and several others receiving similar treatment, the author concludes that Graves's disease is due to an over-stimulation of the nervous system by products of the thyroid gland, and that the administration of this gland as a remedy is injurious; the proper treatment is one tending to reduce the functional activity of the thyroid gland.—*Jour. Am. Med. Assoc.*

#### PAY OF UNITED STATES ARMY MEDICAL OFFICERS.

ON passing the Army Medical Board, the assistant surgeon attains the rank and pay of a first lieutenant of cavalry, 1,600 dollars (£320) a year. After five years' service he enjoys captain's rank and pay, and attains higher grades by seniority. There are one brigadier-general, six colonels, and ten lieutenant-colonels to fifty majors and 110 assistant surgeons: captains or lieutenants according to length of service. Every five years' service up to twenty adds ten per cent. to pay proper. Retirement is compulsory at the age of 64. The medical officer is provided with quarters and forage according to his rank.

#### DEATHS FROM ANÆSTHETICS.

THE *Medical Times and Hospital Gazette* states that 61 deaths occurred during anæsthesia in 1895, which it classifies as follows:—From pure chloroform, 52; from mixtures, containing chloroform, 3; from pure ether alone or preceded by nitrous oxide, 4; from pental, 1; from nitrous oxide alone, 1.

#### IL PRATICO.

THIS fortnightly journal, revived after some years of suspended animation, is published at Florence. Dr. Gino Gelli revives it, with the support of Professor Filippi, the original promoter, in the hope "di far cosa buona e utile." Its scope is wide, including practitioners of medicine and surgery, pharmacists; and midwives, to whom

some pages are devoted. Judging from the numbers we have seen we think that Dr. Gelli's hope is likely to be realised; and we wish our infant sister well. The first number contains a minute description of the English system of training nurses, as practised in St. Bartholomew's Hospital, which is recommended for imitation in Italy, as providing a new, honourable, and lucrative employment for women.

#### DIMINUTION OF MEDICAL SCHOOL ENTRIES IN FRANCE.

WE observe that in France, as in these countries, there has been a considerable decrease in 1896 of entries for the study of medicine. In 1891, 6,212 students were registered. In 1892 there was an increase of 827; in 1893, of 520. In 1894—the last year in which registration was possible without the presentation of a certificate of proficiency in chemistry and natural sciences—the excess of entries over the preceding years was 1,308. In 1895 the excess was 99. In 1896 the total fell off by 511. The diminution is likely to continue, attributable partly to elevation of the standard of qualification, partly to recent regulations affecting foreign students.

#### MARSDEN'S PASTE.

THE *Medical Record* gives the following formula and instructions for the use of this preparation in epithelioma:—R. Acidi arseniosi, 3ij; pulv. gummi arab. 3i; cocaini mur., gr. xvij. "When you are ready to use this it should be made into a paste by adding water. The paste should be of the consistency of rich cream, and should be applied on a small piece of cloth, which is left on from eighteen to thirty-six hours. This can be repeated as often as is necessary. The above is the formula for the stronger paste. In the weaker preparation use only one drachm of arsenious acid and twelve grains of cocaine. Marsden's original formula consisted only of equal parts of arsenious acid and gum arabic. The cocaine has been added to counteract the pain."

#### MORTALITY OF DOCTORS.

DR KORTRIGHT has made an analysis of the ages and causes of death of 450 medical men who have spent their professional lives in New York and its vicinity. Those men, practising the healing and life-saving art upon others, only themselves reached an average of 54.6 years. Whereas among lawyers the mortality figures stood at 20.23, and among clergymen were so low as 15.93, they stood at 25.53 among the doctors. In short, according to Dr. Kortright's figures, doctors are the least long-lived of all

classes except publicans, butchers, factory operatives, and quarry-men. An appalling fact to be added to these is that suicide is four times as common among doctors as among other full-grown men.—*The Hospital.*

YALE MEDICAL JOURNAL.

WE have received the first number of the second volume of this monthly journal, which has overcome the difficulties and discouragements which beset its early infancy, and gives good promise of vigorous growth. The Medical Department of the Yale University deserves, and can maintain, an organ of its own. Its number of students has doubled in five years, the figure for last year being 130. It does not, however, yet supply its own state with medical practitioners. Of 37 medical doctors registered, Aug.—Oct., 1895, only 3 were qualified in Yale. The Hahnemann Medical College, of Philadelphia, supplied two; the New York Homœopathic Medical College, and the Elecctic Medical College, New York, each, one.

EXTRIPATION OF GOITRE.

KOCHER reports that he extirpated 900 goitres in ten years, with only one case of development of *cachexia strumipriva*—a case in which one side of the gland was totally removed, and the other was atrophied. His practice was to leave a portion of the gland to carry on its functions. Deducting 30 cases of special difficulty, 11 out of 870—1.2 per cent.—died, six of them directly from the operation. Of these, three were cases of *Graves's disease*; in which he considers extirpation unadvisable, preferring to ligature some of the thyroid arteries.

---

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

*New "Tabloids."*

*Quinine Salicylate "Tabloids"* (B. W. & Co.), 3 grs.—These "tabloids" have recently been added to Messrs. Burroughs & Wellecome's general list. They have been much prescribed for influenza, and are in regular use in the treatment of rheumatic gout. Owing to the fact that quinine salicylate is almost insoluble in water the "tabloid" forms a convenient means of administering it. Quinine salicylate "tablets" are supplied in bottles of 25 and 100.

*Compound Bromide "Tabloids"* (B. W. & Co.).—In cases of epilepsy, &c., where the bromides have to be administered in large doses for a length of time, it is reported that the salts of sodium strontium and ammonium are less depressing than those of potassium, and that a combination of these three bromides, with a small quantity of the sodium arseniate to prevent ache, forms the best method of continuous bromide treatment. In view of this conclusion, compound bromide "tabloids" have been issued, the dose of sodium arseniate being such as to allow of six "tabloids" to be given in one dose when necessary. These new "tabloids" are prepared according to the following formula:—R. Sodii bromidi, gr. 2; strontii bromidi, gr. 2; ammonii bromidi, gr. 1; sodii arseniatis, gr.  $\frac{1}{60}$ . They are issued in bottles containing 100 "tabloids."

*Trional "Tabloids"* (B. W. & Co.), 5 grains.—These "tabloids" have been introduced to meet the growing demand for a convenient method of administering trional. This drug resembles sulphonal in its action, but is more prompt, sleep being said to follow its administration in fifteen to thirty minutes, and to last from six to eight hours. Disorders of digestion seldom follow its use. Three "tabloids" or more are usually given for a dose. They are put up in bottles containing twenty-five "tabloids" in each.

*Tetronal "Tabloids"* (B. W. & Co.), 5 grains.—This hypnotic produces sleep more rapidly than sulphonal. The latter is said sometimes to take two or even four hours to act, as against about fifteen minutes for tetronal. It is reputed to be entirely free from injurious effects, and as tolerance is not established it is suitable for prolonged administration. Two to four "tabloids," crushed in milk, may be administered fifteen to thirty minutes before sleep is desired. Tetroual "tabloids" are issued in bottles of twenty-five.

*Eucaine Hydrochloride "Soloids"* (B. W. & Co.), 1 and 5 grains.—Eucaine is said to have a local anaesthetic action similar to that of cocaine, but without its toxic properties. The anaesthesia of eucaine is slower to develop than that of cocaine, but lasts longer. It is now under extensive trial in place of cocaine in nasal, laryngeal, urethral, dental, and ophthalmic surgery. Subcutaneously it produces local anaesthesia similar to cocaine. It is sparingly soluble in cold water, but is freely soluble in hot water, from which, however, it crystallises out freely on cooling, the crystals thus produced being less soluble than before. In view of these physical characteristics percentage and other solutions are conveniently and effectively made from "soloids." Both one and five-grain eucaine hydrochloride "soloids" are issued in bottles containing twenty-five in each.

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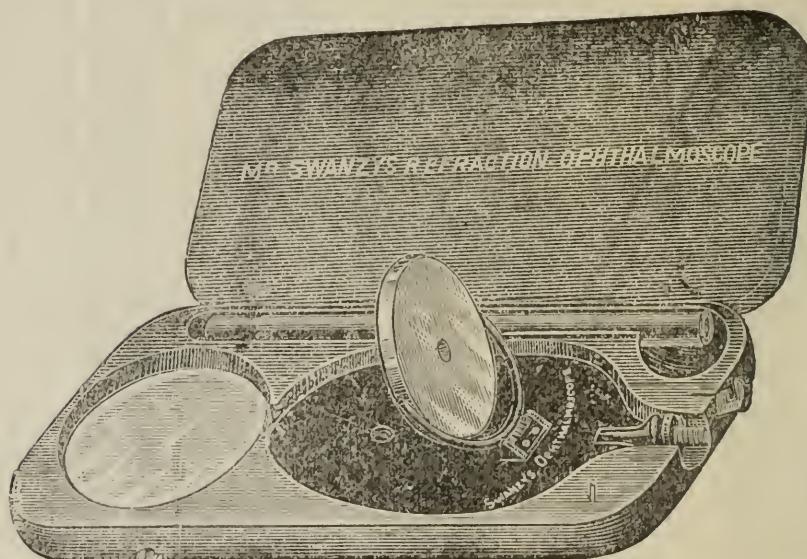
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The 'Lancet' in its issue dated August 22nd, 1896, reports:— "The Perfected Wyeth Beef Juice has received critical

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PROFESSOR M'WEENEY will subject all the lymph to bacteriological examination with a view to controlling its purity, its method of preservation, and its general suitability for vaccination purposes.

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The lymph is made in the following preparations:—

One large Ivory Point, to vaccinate 1 person	...	Price 0s. 6d.
One Tube, to vaccinate 4 persons	...	„ 1s. 0d.
Do., to vaccinate 20 „	...	„ 2s. 6d.
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\*These preparations can be obtained from FANNIN & Co., Ltd., 41 Grafton-street, and all Chemists.

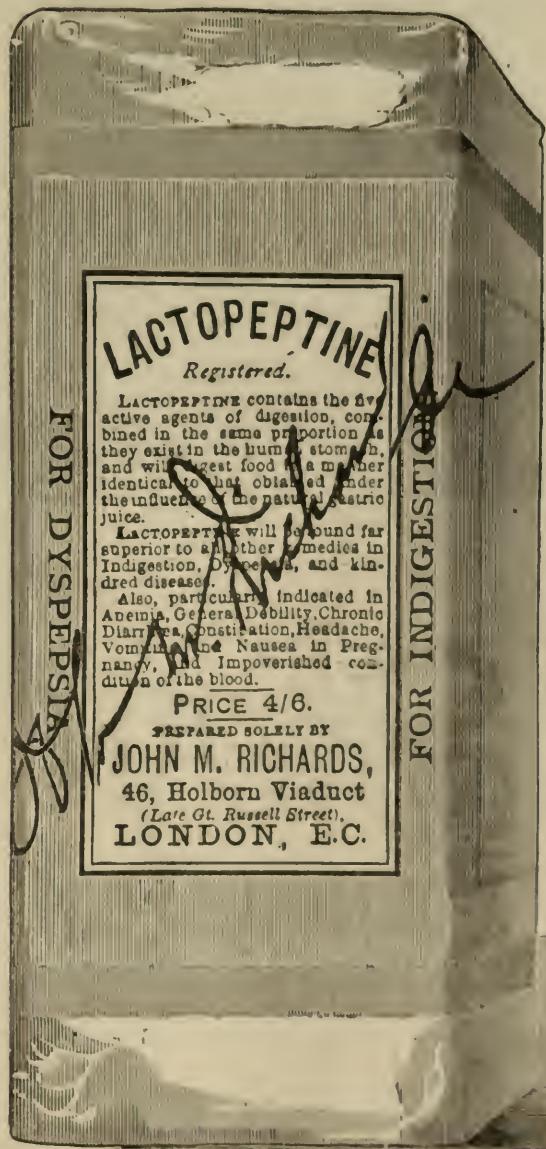
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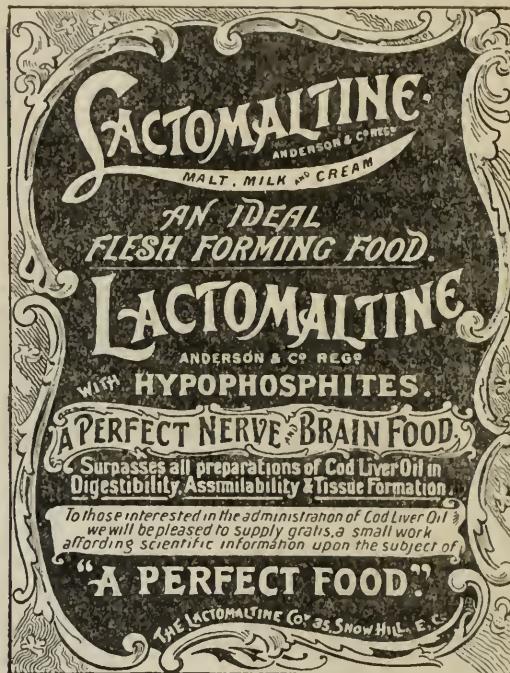
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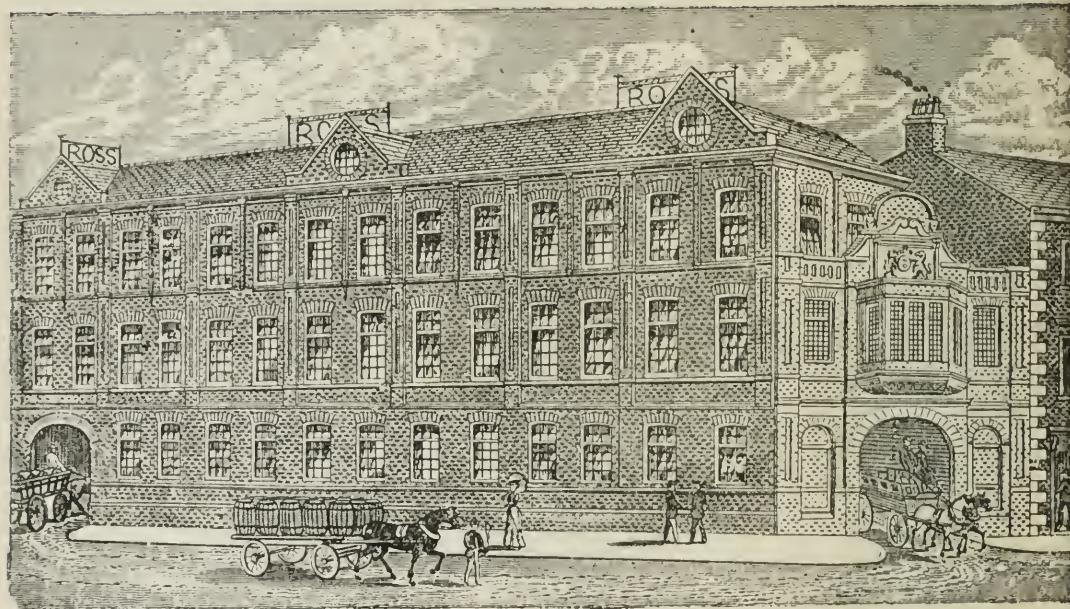
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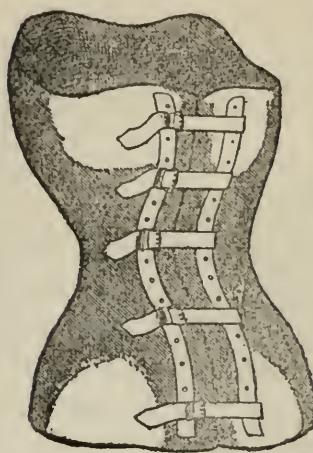
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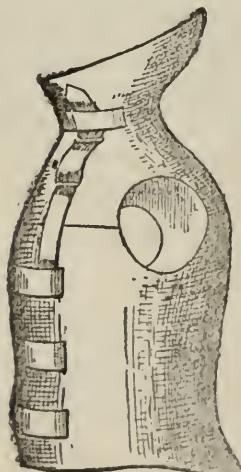
„ waist.

„ hips.

Length from axilla to great trochanter.

In severe angular cases circumference over apex of curve, position of same, and contour should be given; in lateral cases a description of the case.

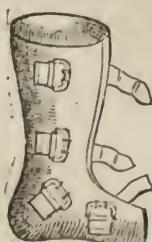
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Same measurements required, and circumference at neck, and length from neck to axilla.

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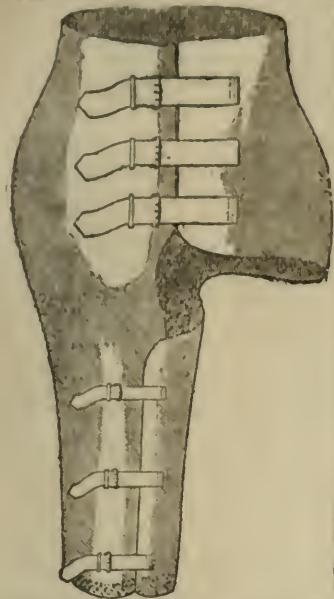
„ heel and instep.

Length from below knee to ground.

„ of foot.

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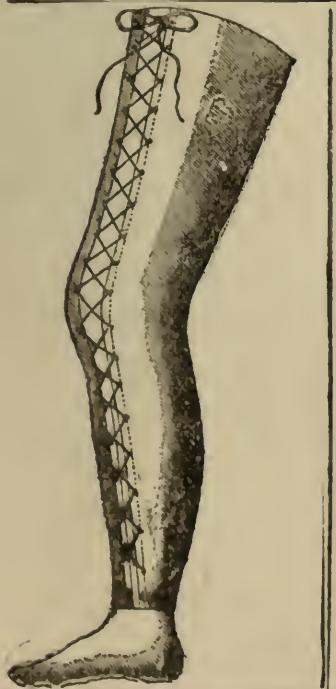
” hips.

” thigh, top of

” above knee.

Length from waist to groin.

**State if for right or left side.**



### LEG SPLINT.

Circumference at top of thigh.

” above knee.

” at knee.

” below knee.

” calf.

” ankle.

Length from groin to centre of knee.

” centre of knee to ankle.

**State if for right or left leg.**

When the foot-part is required, also circumference of heel and instep, and length from centre of knee to ground.

If the limb is contracted the contour should be given.

Splints are also made in Poroplastic for fracture of Inferior Maxilla, Humerus Elbow-Joint, Forearm, Thigh, Knee-Joint, Leg, Shoulder-Joint, Hand, &c.

These Splints can be fitted perfectly to the Patient if softened either by hot water or in a Heater made for the purpose. When mounted with webbing, hot water will do; if with leather, a Heater should be used. The material becomes quite hard again in two or three minutes.

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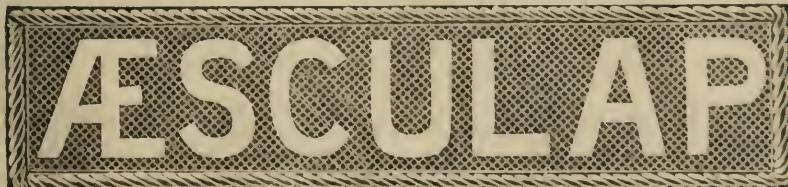
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*The following extracts from the Medical Journals, &c., sufficiently indicate its high character, and the estimation in which it is held alike by the Medical Profession and by the Public:—*

**The LANCET** of March 25th, 1882, says:—

"We have on a previous occasion noticed some of Mr. Benger's admirable preparations. Those now before us are not less satisfactory."

**The BRITISH MEDICAL JOURNAL** August 25th, 1883, says:—

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**The ILLUSTRATED MEDICAL NEWS**, Dec. 22nd, 1888, says:—

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“Apenta Water shows an excellent proportion of sulphates and chlorides.”

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